

SOUTH DAKOTA.

South Dakota, which ranks fourteenth among the states in size (land area 76,868 square miles) and thirty-seventh in population (636,547 in 1920), ranked thirty-fifth in value of mineral products for 1919. The state ranked thirty-eighth in the total number of persons engaged in the mining industries and thirty-seventh in the average number of persons employed.

The total amount received for products by operators of mines, quarries, and wells in South Dakota in 1919 was \$5,314,516, which was a decrease of 17.4 per cent as compared with the gross value of products reported at the census of 1909. This decrease and the decreases in capital, wages, cost of supplies and materials and fuel and power, shown in Table 1, were diminished by the general price increases during the census period, and are therefore not a fair measure of change in the mining industries. The decreases in number of enterprises, number of individual mines and quarries operated, and average number of wage earners employed, as shown in Table 1, indicate decline in mining in South Dakota in 1919, but are in part due to temporarily adverse industrial conditions.

The mining industries reported in South Dakota for 1919, classified according to principal products and listed in order of value of products, were gold and silver from lode mines, sandstone, granite, gypsum, coal, limestone, mica, lead, and natural gas. The leading industry in the state was the mining of gold ores, in which South Dakota ranked fifth among the

states. Statistics for this industry are not presented separately in order to avoid disclosure of individual operations.

The character of organizations conducting mining enterprises is shown in Table 2, which indicates the preponderance of corporations not only as to number of enterprises operated, but also far more as to number of wage earners employed and value of products reported.

Table 3 shows that, measured by number of wage earners employed, all mining enterprises in the state of South Dakota were small; only 2 had more than 100 wage earners each and employed more than 90 per cent of the total number of wage earners. These larger enterprises were in the gold mining industry.

Table 4 shows that for a majority of the enterprises employing wage earners and for 98.3 per cent of all the wage earners the prevailing hours of labor were 54 to 62 per week. The 8-hour day and 7-day week prevailed in the gold mines, and the 10-hour day and 6-day week in the quarries and gypsum mines.

The statistics for wage earners presented in Table 5, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 6 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	23	39	.....	Capital.....	\$26,131,922	\$32,697,991	-14.0
Number of mines and quarries.....	25	43	.....	Principal expenses:			
Number of natural-gas wells.....	1	3	.....	Salaries.....	216,810	207,137	4.7
Persons engaged.....	1,890	3,577	-47.4	Wages.....	2,497,340	3,224,675	-22.6
Proprietors and firm members, total.....	15	31	.....	Contract work.....	11,941	50	.....
Number performing manual labor in or about the mines, quarries, and wells.....	11	8	.....	Supplies and materials.....	1,008,195	* 1,109,671	-9.1
Salaried employees.....	80	90	.....	Fuel and power.....	234,019	421,048	-32.5
Wage earners (average number).....	1,785	3,456	-48.4	Royalties and rents.....	6,805	4,776	42.5
Power used (horsepower).....	11,844	15,048	-24.3	Taxes.....	425,455	102,083	316.9
				Value of products.....	5,314,516	6,432,417	-17.4

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

² Includes cost of ore purchased as material.

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TABLE 2.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919.

CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
All industries.....	23	1,785	\$5,314,516	\$231,086	100.0	100.0	100.0
Corporation.....	14	1,758	5,198,671	371,334	60.9	98.5	97.8
Individual.....	5	24	105,082	21,018	21.7	1.3	2.0
Firm.....	4	3	10,753	2,688	17.4	0.2	0.2

TABLE 3.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	23	100.0	1,785	100.0	SANDSTONE.....	5	100.0	89	100.0
No wage earners.....	6	26.1	.....	.....	1 to 5.....	2	40.0	6	6.7
1 to 5.....	9	39.1	25	1.4	6 to 20.....	1	20.0	18	20.2
6 to 20.....	3	13.0	43	2.4	21 to 50.....	2	40.0	65	73.0
21 to 50.....	3	13.0	99	5.5	COAL, BITUMINOUS.....	5	100.0	8	100.0
101 to 500.....	1	4.4	106	5.9	No wage earners.....	2	40.0	.....	.....
Over 1,000.....	1	4.4	1,512	84.7	1 to 5.....	3	60.0	8	100.0

TABLE 4.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
	Enterprises.	Wage earners.	36 to 43.		44 to 53.		54 to 62.			Enterprises.	Wage earners.	36 to 43.		44 to 53.		54 to 62.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.				Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	17	1,785	1	2	6	29	10	1,754	Coal, bituminous.....	3	8	1	2	1	3	1	3
Sandstone.....	5	89	.....	.....	1	3	4	86	All other.....	9	1,688	.....	.....	4	23	5	1,665

¹ Exclusive of 6 enterprises employing no wage earners in industries as follows: Coal, bituminous, 2; gold and silver, lode mines, 1; limestone, 2; natural gas, 1.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	1,854	1,839	1,906	1,898	1,858	1,854	1,900	1,963	1,945	1,920	1,792	<i>1,673</i>	1,730	85.2
Producing enterprises.....	1,785	1,801	1,868	1,860	1,819	1,793	1,828	1,890	1,866	1,828	1,663	<i>1,574</i>	1,632	83.8
Sandstone.....	89	40	43	42	65	78	80	122	141	121	111	127	91	28.4
Coal, bituminous.....	8	18	11	13	6	4	.....	2	2	6	10	13	15	12.5
All other industries.....	1,688	1,745	1,814	1,805	1,748	1,713	1,737	1,768	1,723	1,701	1,542	<i>1,434</i>	1,526	79.1
Nonproducing enterprises.....	69	38	38	38	39	61	74	73	79	92	99	99	98	38.4

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TABLE 6.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.				Non-producing enterprises. ²
		Total.	Sandstone.	Coal, bituminous.	All other. ¹	
Number of enterprises.....	28	23	5	5	13	5
Number of mines and quarries.....	33	28	6	5	17	5
Number of natural-gas wells.....	1	1			1	
Capital.....	\$30,560,678	\$28,131,022	\$194,507	\$32,770	\$27,004,645	\$2,434,766
Principal expenses:						
Salaries and wages—						
Officers.....	\$10,685	\$8,650	\$4,150		\$4,500	\$2,035
Superintendents and managers.....	\$84,786	\$62,066	\$4,560		\$57,506	\$2,700
Technical employees.....	\$34,538	\$34,538			\$34,538	
Clerks, etc.....	\$62,621	\$61,556	\$3,284		\$58,262	\$1,065
Wage earners.....	\$2,596,754	\$2,497,340	\$93,303	\$11,423	\$2,387,614	\$99,414
Supplies and materials.....	\$1,043,388	\$1,008,196	\$35,550	\$937	\$971,409	\$55,192
Fuel.....	\$248,105	\$238,703	\$3,689	\$105	\$234,909	\$9,402
Power.....	\$49,813	\$45,316	\$6,605		\$38,711	\$4,497
Royalties and rents.....	\$6,805	\$6,805	\$1,175	\$1,500	\$4,130	
Taxes.....	\$427,018	\$426,465	\$1,335	\$310	\$423,840	\$1,533
Contract work.....	\$22,069	\$11,941			\$11,941	\$10,128
Expenditures for development (included in the above items).....	\$190,572	\$41,903			\$41,903	\$148,669
Value of products.....	\$5,314,516	\$5,314,516	\$140,068	\$29,892	\$5,144,556	
Persons engaged in industry.....	1,958	1,880	96	16	1,768	78
Proprietors and firm members (total).....	16	15		8	7	1
Number performing manual labor.....	11	11		7	4	
Salaried officers.....	8	5	2		3	
Superintendents and managers.....	18	15	3		12	3
Technical employees.....	23	23			23	
Clerks, etc.....	39	37	2		35	2
Wage earners (average number).....	1,854	1,785	89	8	1,688	69
Wage earners by occupation (Dec. 15):						
Above ground (total).....	1,149	1,065	101	7	957	84
Below ground (total).....	656	624		9	615	32
Foremen, shift bosses, etc.—						
Above ground.....	55	48	3		45	7
Below ground.....	42	35			35	7
Engineers, hoistmen, electricians, mechanics, etc.—						
Above ground.....	344	320	10	1	309	24
Below ground.....	24	24			24	
Miners, quarrymen, and drillmen, including their helpers—						
Above ground.....	119	96	16	4	76	23
Below ground.....	307	282		9	273	25
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—						
Above ground.....	63	63	1	2	60	
Below ground.....	38	38			38	
Muckers, loaders, laborers, and others not classified—						
Above ground.....	326	296	67		229	30
Below ground.....	245	245			245	
Wage earners employed in mills and beneficiating plants—						
Above ground.....	242	242	4		238	
Number of females included in wage earners reported above:						
Above ground.....	2	2			2	
Mineral and oil land operated.....acres..	13,869	11,538	128	880	10,530	2,331
Land controlled, total.....acres..	46,259	43,283	128	1,520	41,640	2,971
Mineral and oil land owned.....	12,237	11,056	113	720	10,223	1,181
Mineral and oil land leased.....	1,632	482	15	160	307	1,150
Timber and other lands owned and leased.....	32,390	31,750		640	31,110	640
Power used: Aggregate horsepower.....	12,739	11,844	497	49	11,298	895
Prime movers (horsepower, total).....	10,434	9,334	90	49	9,695	600
Steam engines—						
Number.....	17	10	3	1	6	7
Horsepower.....	5,455	4,855	90	35	4,730	600
Steam turbines—						
Number.....	2	2			2	
Horsepower.....	4,500	4,500			4,500	
Internal-combustion engines—						
Number.....	9	9		3	6	
Horsepower.....	354	354		14	340	
Water wheels and turbines—						
Number.....	9	9			9	
Horsepower.....	125	125			125	
Purchased power (horsepower, total).....	2,305	2,010	407		1,603	295
Electric motors operated by purchased current—						
Number.....	101	91	13		78	10
Horsepower.....	2,305	2,010	407		1,603	295
Electric motors run by current generated by enterprise using:						
Number.....	311	311			311	
Horsepower.....	11,945	11,945			11,945	
Fuel used:						
Coal, bituminous.....tons, 2,000 pounds..	43,111	42,111	603	28	41,480	1,000
Coke.....tons, 2,000 pounds..	236	236			236	
Wood.....cords..	4,109	2,719			2,719	1,390
Fuel oils.....barrels..	2,748	2,748			2,748	
Gasoline and other volatile oils.....barrels..	327	327	1	15	311	

¹ Includes enterprises as follows: Gold and silver, lode mines, 4; granite, 1; gypsum, 2; lead, 1; limestone, 3; mica, 1; natural gas, 1.² Includes enterprises as follows: Gold, silver, copper, lead, or zinc, lode mines, 4; rare metals (tin and tungsten), 1.

TENNESSEE.

Tennessee, which ranks thirty-fourth among the states in size (land area 41,687 square miles) and nineteenth in population (2,337,885 in 1920), ranked twenty-third in the value of mineral products in 1919. The state ranked nineteenth in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The total amount received for products by operators of all mines, quarries, and wells in Tennessee in 1919 was \$23,292,114, which was an increase of 83.5 per cent as compared with the gross value of products reported at the census of 1909. The value for 1919 includes receipts for mineral by-products, for power sold, and for work or miscellaneous services for other enterprises amounting to \$70,375. The statistics for 1909 include data on smelters operated in connection with mines, but similar data were excluded from the statistics for 1919.

Increases in value of products, capital, wages, cost of supplies and materials and fuel and power, as shown in Table 1, are largely due to general price increases and are, therefore, not a measure of growth in mining. A decrease in mining in Tennessee in 1919 as compared with 1909 is indicated by decrease in number of enterprises, and in the number of individual mines and quarries operated, and also by decrease in the average number of wage earners.

The mining industries reported in Tennessee, classified according to principal products and listed in order of value of products, were bituminous coal, phosphate rock, zinc (and lead), marble, iron ore, copper, limestone, barytes, clay, silica, petroleum and natural gas, mineral pigments, bauxite, manganese ore, and sandstone. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading industry in 1919 was the mining of bituminous coal. More than half of the mining enterprises in the state were engaged in this industry, and they employed 66 per cent of the total number of wage earners and reported products valued at \$14,024,432, or 60.2 per cent of the total. The coal-producing area is a northeast-southwest belt a little east of the center of the state. Production was reported from 10 northern counties which form part of the Middle Appalachian coal field, and 6 southern counties which form part of the Southern Appalachian coal field.

The industry second in importance in Tennessee was the mining of phosphate rock. The 19 enterprises reporting in this industry employed 10.8 per cent of the total number of wage earners and contributed as value of products \$3,139,671, or 13.5 per cent of the total value of products. The combined

production of five counties, in the central and south-central sections of the state, gave Tennessee second rank in the United States in this industry in 1919.

The mining of lead-bearing zinc ores ranked third. The statistics for the three enterprises in this industry have been combined with those for two copper enterprises in order to avoid disclosure of individual operations. These industries together employed 8.9 per cent of the total number of wage earners and reported 13.4 per cent of the total value of products. The operating copper mines are in the southeastern part of the state and the operating zinc mines in the northeastern part.

The marble industry was fourth in importance in the state, and Tennessee ranked second in the United States in 1919 in the value of marble products. Thirteen enterprises in this industry employed 3.7 per cent of the total number of wage earners and reported products valued at \$1,088,131, or 4.7 per cent of the total value of products.

The mining enterprises in Tennessee in 1919 are classified according to form of operating organization in Table 3, which shows that, for the state as a whole and for each of the industries presented separately, corporations outnumbered other forms of organization and conducted the most important enterprises.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in Tennessee, 76.9 per cent had fewer than 101 wage earners each and employed 27.3 per cent of the total number of wage earners. On the other hand, only 44 enterprises, or 21.7 per cent of the total number, had more than 100 wage earners each, and these enterprises employed 72.8 per cent of the total number of wage earners. The largest enterprises were in the coal and copper mining industries.

Table 5 shows that in nearly one-half of the enterprises employing wage earners, and for 63.1 per cent of the wage earners reported, the hours of labor were 44 to 53 per week. In one-third of the enterprises and for about one-fourth of the wage earners the hours were 54 to 62 per week. In the coal and copper and zinc mining industries the 8-hour day and 6-day week was the rule, but a considerable number of enterprises in the coal industry reported a shorter week. In iron-ore mining, phosphate-rock mining, and in the quarrying industries the prevailing hours were 54 to 62 per week with the 10-hour day and 6-day week.

The statistics for wage earners presented in Table 6, showing changes in the number employed month by

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month, reflect conditions prevailing in the industries during the census year. The very low minimum in the coal industry in November was due to the great strike of the coal miners. The abnormal minimum in this industry accounts for the very low minimum in

the same month for the combined statistics for all industries.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without disclosure of individual operations.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	203	216	-6.0	Capital.....	\$51,466,345	\$33,819,977	52.2
Number of mines and quarries.....	203	365	-27.9	Principal expenses:			
Number of petroleum and natural-gas wells.....	14	21		Salaries.....	1,638,395	988,288	65.6
Persons engaged.....	15,450	17,278	-10.6	Wages.....	12,987,338	7,358,583	76.5
Proprietors and firm members, total.....	67	87		Contract work.....	173,796	54,372	219.6
Number performing manual labor in or about the mines, quarries, and wells.....	17	24		Supplies and materials.....	3,892,397	*1,613,571	141.2
Salaried employees.....	913	853	7.0	Fuel and power.....	1,259,983	645,376	95.2
Wage earners (average number).....	14,470	16,338	-11.4	Royalties and rents.....	554,743	617,097	-10.1
Power used (horsepower).....	56,685	34,523	64.2	Taxes.....	608,917	94,575	543.8
				Value of products.....	23,292,114	12,692,547	83.5

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

² Includes cost of ore and coal purchased as material.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	203	14,470	100.0	\$23,292,114	100.0	Iron ore.....	12	824	5.7	\$829,118	3.6
Coal, bituminous.....	107	9,556	66.0	14,024,432	60.2	Limestone.....	21	349	2.4	534,848	2.3
Phosphate rock.....	19	1,568	10.8	3,139,671	13.5	Barytes.....	5	108	0.7	239,610	1.0
Copper and lead and zinc.....	5	1,282	8.9	3,121,803	13.4	Clay.....	10	177	1.2	182,705	0.8
Marble.....	13	540	3.7	1,088,131	4.7	All other industries ¹	11	66	0.5	131,796	0.6

¹ Includes enterprises in industries as follows: Bauxite, 1; manganese ore 3; mineral pigments, 2; petroleum and natural gas, 1; sandstone, 2; silica, 2.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	203	14,470	\$23,292,114	\$114,739	100.0	100.0	100.0
Corporation.....	158	14,015	22,689,938	143,608	77.8	96.9	97.4
Individual.....	27	286	365,084	13,520	13.3	2.0	1.6
Firm ¹	18	169	237,092	13,172	8.9	1.2	1.0
COAL, BITUMINOUS.....	107	9,556	14,024,432	131,069	100.0	100.0	100.0
Corporation.....	85	9,330	13,733,409	161,570	79.4	97.6	97.9
Individual.....	10	81	96,097	9,610	9.3	0.8	0.7
Firm ¹	12	145	194,926	16,244	11.2	1.5	1.4
PHOSPHATE ROCK.....	19	1,568	3,139,671	165,246	100.0	100.0	100.0
Corporation.....	15	1,524	3,054,688	203,646	78.9	97.2	97.3
Individual ²	4	44	84,983	21,246	21.1	2.8	2.7
MARBLE.....	13	540	1,088,131	83,702	100.0	100.0	100.0
Corporation.....	13	540	1,088,131	83,702	100.0	100.0	100.0
LIMESTONE.....	21	349	534,848	25,469	100.0	100.0	100.0
Corporation.....	14	283	439,149	31,368	66.7	81.1	82.1
Individual.....	4	47	66,824	16,706	19.0	13.5	12.5
Firm.....	3	19	28,875	9,625	14.3	5.4	5.4
CLAY.....	10	177	182,705	18,271	100.0	100.0	100.0
Corporation.....	6	172	174,619	29,103	60.0	97.2	95.6
Individual ²	4	5	8,086	2,022	40.0	2.8	4.4

¹ Includes 2 other forms of organization.

² Includes 1 firm.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	208	100.0	14,470	100.0	IRON ORE.....	12	100.0	824	100.0
No wage earners.....	3	1.5			1 to 5.....	1	8.3	2	0.2
1 to 5.....	30	14.8	71	0.5	6 to 20.....	2	16.7	38	4.6
6 to 20.....	56	27.6	717	5.0	21 to 50.....	3	25.0	112	13.6
21 to 50.....	47	23.2	1,516	10.5	51 to 100.....	4	33.3	244	29.6
51 to 100.....	23	11.3	1,630	11.3	101 to 500.....	2	16.7	428	51.9
101 to 500.....	41	20.2	8,657	59.8					
501 to 1,000.....	3	1.5	1,879	13.0	MARBLE.....	13	100.0	540	100.0
COAL, BITUMINOUS.....	107	100.0	9,556	100.0	6 to 20.....	5	38.5	66	12.2
1 to 5.....	12	11.2	33	0.3	21 to 50.....	5	38.5	179	33.1
6 to 20.....	28	26.2	350	3.7	51 to 100.....	2	15.4	147	27.2
21 to 50.....	22	20.6	778	8.1	101 to 500.....	1	7.7	148	27.4
51 to 100.....	14	13.1	993	10.4	LIMESTONE.....	21	100.0	340	100.0
101 to 500.....	29	27.1	6,165	64.5	1 to 5.....	9	14.3	2	0.6
501 to 1,000.....	2	1.9	1,237	12.0	6 to 20.....	11	52.4	163	46.7
PHOSPHATE ROCK.....	19	100.0	1,568	100.0	21 to 50.....	7	33.3	184	52.7
No wage earners.....	1	5.3			CLAY.....	10	100.0	177	100.0
1 to 5.....	2	10.5	9	0.6	No wage earners.....	2	20.0		
6 to 20.....	4	21.1	44	2.8	1 to 5.....	4	40.0	6	3.4
21 to 50.....	4	21.1	113	7.2	6 to 20.....	2	20.0	14	7.9
51 to 100.....	3	15.8	246	15.7	21 to 50.....	1	10.0	30	16.9
101 to 500.....	5	26.3	1,156	73.7	101 to 500.....	1	10.0	127	71.8
COPPER AND LEAD AND ZINC.....	5	100.0	1,282	100.0	BARYTES.....	5	100.0	108	100.0
6 to 20.....	1	20.0	7	0.5	6 to 20.....	1	20.0	17	15.7
101 to 500.....	3	60.0	633	49.4	21 to 50.....	4	80.0	91	84.3
501 to 1,000.....	1	20.0	642	50.1					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
	Enterprises.	Wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.		63 to 71.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	1,200	14,470	13	479	26	1,117	93	9,132	67	3,709	1	33
Coal, bituminous.....	107	9,556	8	455	22	1,077	75	7,791	2	233		
Phosphate rock.....	18	1,568	1	5	1	30	1	25	15	1,503		
Copper and lead and zinc.....	5	1,282					3	1,107	2	175		
Iron ore.....	12	824					1	19	11	805		
Marble.....	13	540							13	540		
Limestone.....	21	349	1	8	1	8	7	124	11	176	1	33
Clay.....	8	177	3	11	1	1	1	30	3	135		
Barytes.....	5	108					1	25	4	83		
All other industries.....	11	66			1	1	4	11	6	54		

1 Exclusive of 3 enterprises employing no wage earners in the following industries: Clay, 2; phosphate rock, 1.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	14,470	15,364	14,322	14,114	13,677	14,572	14,731	14,974	15,304	15,227	15,777	10,408	15,172	66.0
Coal, bituminous.....	9,556	10,632	9,556	9,124	8,796	9,710	9,964	10,126	10,223	10,169	10,763	5,567	10,252	49.8
Phosphate rock.....	1,568	1,301	1,493	1,458	1,577	1,649	1,024	1,657	1,733	1,695	1,577	1,633	1,419	75.1
Copper and lead and zinc.....	1,282	1,423	1,332	1,420	1,272	1,284	1,261	1,159	1,184	1,182	1,206	1,370	1,311	80.0
Iron ore.....	824	1,007	953	960	790	644	604	689	763	822	885	849	922	60.0
Marble.....	540	487	462	502	520	553	568	586	563	564	581	546	568	78.8
Limestone.....	349	311	319	380	347	356	334	354	378	376	372	301	360	79.2
Clay.....	177	107	108	128	171	173	193	211	221	210	203	199	200	43.4
Barytes.....	108	59	38	58	124	132	122	145	146	139	124	114	106	22.6
All other industries.....	66	63	66	84	80	71	61	67	63	70	66	37	84	36.6

MINES AND QUARRIES—TENNESSEE.

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.									
	Total.	Coal, bituminous.	Phosphate rock.	Copper and lead and zinc.	Marble.	Iron ore.	Limestone.	Barytes.	Clay.	All other. ¹
Number of enterprises.....	203	107	19	5	13	12	21	5	10	11
Number of mines and quarries.....	263	143	23	8	17	21	21	7	10	10
Number of petroleum and natural-gas wells.....	14									14
Capital.....	\$51,466,345	\$20,951,471	\$14,657,494	\$8,016,676	\$1,604,393	\$3,738,115	\$350,106	\$533,067	\$284,373	\$1,830,650
Principal expenses:										
Salaries and wages—										
Officers.....	\$515,630	\$362,419	\$31,918	\$12,135	\$38,670	\$14,602	\$33,982	\$1,729	\$16,800	\$3,075
Superintendents and managers.....	\$615,091	\$367,238	\$73,744	\$72,899	\$35,895	\$22,049	\$14,354	\$15,420	\$9,140	\$6,375
Technical employees.....	\$128,083	\$72,897	\$14,449	\$29,737		\$3,962	\$663	\$5,300		\$875
Clerks, etc.....	\$379,591	\$229,262	\$54,892	\$35,207	\$16,832	\$12,900	\$3,823	\$1,500	\$4,800	\$575
Wage earners.....	\$12,987,338	\$8,609,951	\$1,174,759	\$1,646,278	\$407,912	\$583,033	\$245,393	\$95,275	\$74,028	\$62,709
Supplies and materials.....	\$3,892,397	\$2,006,072	\$638,533	\$621,239	\$249,623	\$169,791	\$95,398	\$44,406	\$23,455	\$40,880
Fuel.....	\$1,037,175	\$363,966	\$379,182	\$91,077	\$81,834	\$61,768	\$29,658	\$19,052	\$5,892	\$3,798
Power.....	\$222,308	\$50,655	\$1,750	\$153,477	\$6,244	\$120	\$7,354	\$3,208		
Royalties and rents.....	\$554,743	\$334,375	\$70,553	\$54,124	\$5,201	\$10,084	\$9,755	\$3,000	\$295	\$10,770
Taxes.....	\$805,017	\$466,768	\$83,423	\$47,939	\$15,655	\$0,199	\$5,430	\$706	\$1,640	\$3,200
Contract work.....	\$173,796	\$72,923	\$35,421	\$48,260			\$1,382		\$11,011	\$1,500
Expenditures for development (included in the above items).....	\$537,904	\$146,992	\$32,065	\$206,075	\$2,500	\$102,871	\$3,000		\$1,500	\$42,858
Value of products.....	\$23,292,114	\$14,024,432	\$3,139,671	\$3,121,803	\$1,088,131	\$829,118	\$534,848	\$239,610	\$182,705	\$131,796
Persons engaged in industry.....	15,460	10,170	1,674	1,373	590	859	385	125	197	77
Proprietors and firm members (total).....	67	36	5	1		2	12	2	5	4
Number performing manual labor.....	17	9					5		2	1
Salaried officers.....	170	108	16	3	19	12	13	2	5	2
Superintendents and managers.....	398	191	31	27	18	13	8	8	7	3
Technical employees.....	75	42	7	18		2	1	1		1
Clerks, etc.....	302	237	42	42	13	16	2	4	3	1
Wage earners (average number).....	14,470	9,566	1,568	1,232	540	824	349	108	177	66
Wage earners by occupation (Dec. 15):										
Above ground (total).....	6,682	2,744	1,456	351	589	680	414	120	210	118
Below ground (total).....	9,382	7,989	115	993		315				
Foremen, shift bosses, etc.—										
Above ground.....	249	101	48	8	19	25	21	8	12	7
Below ground.....	195	145	2	47		1				
Enginemen, hoist men, electricians, mechanics, etc.—										
Above ground.....	973	536	189	108	22	80	15	11	14	4
Below ground.....	471	392		71		8				
Miners, quarrymen, and drill men, including their helpers—										
Above ground.....	1,207	374	294	15	169	121	179	22	9	24
Below ground.....	5,592	5,030	90	241		201				
Timbermen, trackmen, and men engaged in hauling, tramping, etc.—										
Above ground.....	872	540	162	34	12	69	49	4	2	
Below ground.....	2,099	1,633	7	415		39				
Muckers, loaders, laborers, and others not classified—										
Above ground.....	2,798	1,167	639	55	157	322	141	67	173	77
Below ground.....	1,055	784	16	189		66				
Wage earners employed in mills and beneficiating plants—										
Above ground.....	583	32	124	131	210	63	9	8		6
Number of wage earners under 16 years of age included in those reported above—										
Above ground.....	3	1	1					1		
Mineral and oil land operated.....acres..	361,660	293,364	23,452	14,519	1,244	4,494	594	2,050	742	21,201
Land controlled, total.....acres..	475,006	365,117	25,738	46,417	1,312	11,544	594	2,070	968	21,246
Mineral land owned.....	205,832	165,067	22,078	14,249	997	1,386	462	300	549	749
Mineral and oil land leased.....	156,866	129,317	1,379	270	255	3,108	132	1,750	193	20,452
Timber and other lands owned and leased.....	112,318	70,733	2,288	31,898	60	7,050		20	225	45
Power used: Aggregate horsepower.....	56,685	22,946	7,168	15,087	3,885	2,659	1,996	474	106	464
Prime movers (horsepower, total).....	30,297	20,743	7,070	2,540	3,135	3,649	1,231	359	106	464
Steam engines—										
Number.....	327	146	55	8	32	47	22	4	4	9
Horsepower.....	36,226	19,093	7,020	1,537	3,115	3,646	1,150	165	88	412
Steam turbines—										
Number.....	4	2		1			1			
Horsepower.....	2,008	923		1,000			80			
Internal-combustion engines—										
Number.....	69	49	1	1	1	1	1	8	3	4
Horsepower.....	1,046	722	50	3	3	3	1	194	18	52
Water wheels and turbines—										
Number.....	1									
Horsepower.....	17									
Purchased power (horsepower, total).....	17,388	2,203	98	13,447	750	10	765	115		
Electric motors operated by purchased current—										
Number.....	324	73	5	215	15		11	5		
Horsepower.....	17,378	2,203	98	13,447	750		765	115		
Other equipment operated by purchased power—										
Horsepower.....	10						10			
Electric motors run by current generated by enterprise using:										
Number.....	342	263	63	9	7					
Horsepower.....	12,562	10,520	1,792	50	200					
Fuel used:										
Coal, bituminous..... tons, 2,000 pounds..	293,649	141,222	88,020	17,209	20,704	19,623	8,354	1,450	1,430	723
Coke..... tons, 2,000 pounds..	29			20						
Wood..... cords.....	5,831	104	5,679			20	28			
Fuel oils..... barrels.....	1,240	187	245	800				4	4	
Gasoline and other volatile oils..... barrels..	1,017	363	42	8	1	2	206	392	12	1
Natural gas..... 1,000 cubic feet.....	1,350									1,350

¹ Includes enterprises as follows: Bauxite, 1; manganese ore, 3; mineral pigments, 2; petroleum and natural gas, 1; sandstone, 2; silica, 2.

TEXAS.

Texas, which ranks first among the states in size (land area 262,398 square miles) and fifth in population (4,663,228 in 1920), ranked sixth in value of mineral products for 1919. The state ranked tenth in the total number of persons engaged in the mining industries and eleventh in the average number of wage earners employed.

The gross amount received for products by operators of all mines, quarries, and wells in Texas in 1919 was \$160,378,058, an increase of 1,393 per cent over the corresponding amount reported at the census of 1909. After eliminating duplication of \$360,637, the value of natural gas sold by some producers and included in the products reported by other producers who used it as material or resold it, the net value for 1919 was \$160,017,421, which was an increase of approximately 1,400 per cent over the corresponding value for 1919. The value of the products for 1919 includes \$310,340 received by operators of mines, quarries, and wells for power sold and work or miscellaneous services for other enterprises.

The increases in value of products, and in capital, wages, cost of supplies and materials and fuel and power, as shown in Table 1, while in large part due to general price increases in recent years, nevertheless show the growth of mineral industries in Texas. The increases in number of enterprises, number of productive wells, and average number of wage earners employed also show progress during the decade.

The mining industries reported for 1919, classified according to principal products and listed in order of value of products, were petroleum and natural gas, sulphur, bituminous coal, gypsum, gold and silver (lode), quicksilver, limestone, fuller's earth, granite, asphalt, clay, basalt, iron ore, marble, and graphite. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mining industry in Texas in 1919 was the production of petroleum and natural gas. The statistics here presented include data on operation of plants engaged in extraction of gasoline from natural gas, whether such plants were connected with well operations or not. Approximately 90 per cent of all enterprises in the state were engaged in the petroleum and natural-gas industry, and they employed 74.9 per cent of the total number of wage earners and reported as value of products \$143,337,362, or 89.4 per cent of the total value of products. The petroleum and natural-gas fields in Texas are the most extensive of any state in the Union; those in the northern and central counties, 30 of which reported production, are part of the Mid-Continent Oil Field which extends into Oklahoma and northern Louisiana; and those of the southeastern

counties, 10 of which reported production in 1919, are part of the Gulf Coast Field which extends into southern Louisiana. On the basis of value of production Texas ranked second in the United States in the petroleum and natural-gas industry.

The mining industry second in importance in Texas in 1919 was the production of sulphur in Brazoria and Matagorda Counties. Texas ranked first in the United States in this mining industry, statistics for which are not presented in order to avoid disclosure of individual operations.

The industry third in importance was the mining of coal, 4 counties in central northern Texas and 2 in southern Texas reporting production of subbituminous coal, and 12 counties in eastern and central Texas reporting production of lignite.

Other industries of minor importance in the state, but in which Texas ranked high among the producing states, were quicksilver and fuller's earth, in each of which Texas ranked second; and asphalt, in which it ranked third.

In addition to operations on producing mineral properties, work was reported by 64 enterprises in the petroleum and natural-gas industry engaged in developing nonproductive properties. These, with a combined capital of \$17,105,680, employed 179 wage earners and expended for development work \$2,871,256; the figures for wage earners and cost of development work represented 1 per cent of the aggregate number of wage earners employed and 2 per cent of the aggregate principal expenditures for all mining operations in the state. Development work was also reported by 1 nonproducing coal enterprise, for which statistics are not included in order to avoid disclosure of individual operations.

The character of organizations conducting mining enterprises in Texas in 1919 is shown in Table 3, which brings out the extent of corporate control. Although corporations conducted only 53.2 per cent of the total number of enterprises, they employed 89.4 per cent of the total number of wage earners and reported 85.4 per cent of the total value of products.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in Texas, 94.8 per cent had no wage earners or fewer than 101 each, and the wage earners employed were only 32 per cent of the total number. On the other hand, 5.1 per cent of the total number of enterprises had more than 100 wage earners each and these enterprises employed 68 per cent of the total number of wage earners. The largest enterprises in the petroleum and natural-gas industry, those reporting over 500 wage earners each, made

combined reports for operations in several localities; the actual individual operations in this industry were smaller, therefore, than indicated by the table. The largest single operations were in the coal and sulphur-mining industries.

Table 5 shows that in a majority of the enterprises employing wage earners and for 61.8 per cent of the total number of wage earners the hours of labor were 63 or more per week. These hours prevailed in the petroleum and natural-gas industry and were reported by only one enterprise in another industry. In the coal-mining industry the hours of labor were generally 44 to 53 per week, with the 8-hour day and 6-day

week prevailing; in other mining and quarrying industries the hours were most commonly 54 to 62 per week, with a 9-hour or 10-hour day and 6-day week prevailing.

The statistics for wage earners presented in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the industries during the census year. The minimum number in the coal industry in November was abnormal and due to the great strike.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without disclosure of individual operations.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	624	230	164.4	Capital.....	\$361,684,392	\$19,575,969	1,747.6
Number of mines and quarries.....	81	92	86.9	Principal expenses:			
Number of petroleum and natural-gas wells.....	8,749	2,279	283.9	Salaries.....	6,429,058	541,762	1,086.9
Number of natural-gas gasoline plants.....	23			Wages.....	29,557,997	3,997,495	639.4
Persons engaged.....	22,800	7,065	224.0	Contract work.....	25,773,700	152,096	16,845.7
Proprietors and firm members, total.....	484	261	85.4	Supplies and materials ²	45,401,592	1,833,415	2,376.3
Number performing manual labor in or about the mines, quarries, and wells.....	52	65	78.5	Fuel and power.....	6,189,559	255,614	2,321.4
Salaried employees.....	4,242	425	898.1	Royalties and rents.....	23,912,179	917,799	2,505.4
Wage earners (average number).....	18,164	6,379	184.7	Taxes.....	4,045,981	62,333	6,390.9
Power used (horsepower).....	129,063	32,003	303.3	Value of products.....	160,378,058	10,742,150	1,393.0

¹ Percentages are omitted where base is less than 100.

² Includes cost of natural gas purchased for use as material and for resale.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	624	18,164	100.0	\$160,378,058	100.0	Coal, bituminous.....	33	2,711	14.9	\$4,322,100	2.7
Petroleum and natural gas.....	553	13,599	74.9	143,337,362	89.4	All other industries ¹	38	1,854	10.2	12,718,596	7.9

¹ Includes enterprises in industries as follows: Asphalt, 1; basalt, 1; clay, 2; fuller's earth, 1; gold and silver, lode mines, 1; granite, 8; graphite, 1; gypsum, 3; iron ore, 1; limestone, 12; marble, 1; quicksilver, 4; sulphur, 2.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
			ALL INDUSTRIES.....	624	18,164	\$160,378,058	\$257,016
Corporation.....	332	16,239	136,890,174	412,320	53.2	89.4	85.4
Individual.....	54	404	2,289,434	42,397	8.7	2.2	1.4
Firm.....	105	904	11,795,704	112,340	16.8	5.5	7.4
Other.....	133	627	9,402,746	70,997	21.3	2.9	5.9
PETROLEUM AND NATURAL GAS.....	553	13,599	143,337,362	259,200	100.0	100.0	100.0
Corporation.....	284	12,055	120,465,905	424,176	51.4	88.6	84.0
Individual.....	37	180	1,833,534	50,908	6.7	1.2	1.3
Firm.....	100	366	11,586,622	115,866	18.1	6.4	8.1
Other.....	132	518	9,401,251	71,222	23.9	3.8	6.6
COAL, BITUMINOUS.....	33	2,711	4,322,100	130,973	100.0	100.0	100.0
Corporation.....	29	2,615	4,205,450	145,016	87.9	96.5	97.3
Unincorporated ¹	4	96	116,650	20,163	12.1	3.5	2.7

¹ Includes 1 firm, 2 individuals, and 1 other form of organization.

MINES AND QUARRIES—TEXAS.

TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES	624	100.0	18,164	100.0	COAL, BITUMINOUS	33	100.0	2,711	100.0
No wage earners.....	70	11.2	.....	.....	1 to 5.....	2	6.1	10	0.4
1 to 5.....	306	49.0	628	3.4	6 to 20.....	9	27.3	114	4.2
6 to 20.....	138	22.1	1,471	8.1	21 to 50.....	8	24.2	274	10.1
21 to 50.....	50	8.0	1,591	8.8	51 to 100.....	7	21.2	497	18.3
51 to 100.....	28	4.5	2,129	11.7	101 to 500.....	6	18.2	972	35.9
101 to 500.....	25	4.0	6,116	33.7	501 to 1,000.....	1	3.0	844	31.1
501 to 1,000.....	5	0.8	8,352	20.1					
Over 1,000.....	2	0.3	2,577	14.2					
PETROLEUM AND NATURAL GAS ..	553	100.0	13,590	100.0					
No wage earners.....	70	12.7	.....	.....			
1 to 5.....	294	53.2	588	4.3					
6 to 20.....	120	21.7	1,256	9.2					
21 to 50.....	30	5.4	933	6.9					
51 to 100.....	17	3.1	1,308	9.6					
101 to 500.....	17	3.1	4,744	34.9					
501 to 1,000.....	3	0.5	2,193	16.1					
Over 1,000.....	2	0.4	2,577	18.9					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—											
	Enter-prises.	Wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.		63 to 71.		72 to 84.	
			Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	554	18,164	14	82	12	521	68	2,447	134	3,881	157	6,538	169	4,695
Petroleum and natural gas.....	483	13,590	13	26	5	6	37	276	103	2,096	156	6,500	169	4,695
Coal, bituminous.....	33	2,711	1	56	7	515	20	1,959	5	181	.....	.....	.....	.....
All other industries.....	38	1,854	.....	.....	.....	.....	11	212	26	1,604	1	38	.....	.....

¹ Exclusive of 70 enterprises in the petroleum and natural-gas industry employing no wage earners.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	18,343	14,748	15,094	16,043	16,810	17,404	17,442	18,638	20,633	21,209	21,102	19,740	21,250	69.4
Producing enterprises.....	18,164	14,661	15,003	15,942	16,688	17,263	17,259	18,459	20,420	20,975	20,353	19,474	20,971	69.9
Petroleum and natural gas.....	13,590	8,830	10,325	11,195	11,821	12,386	12,554	13,757	15,787	16,351	16,429	16,240	16,483	59.9
Coal, bituminous.....	2,711	3,138	3,075	2,983	2,944	2,919	2,817	2,790	2,740	2,602	2,529	1,352	2,553	43.1
All other industries.....	1,854	1,643	1,603	1,764	1,923	1,958	1,883	1,912	1,913	1,932	1,895	1,882	1,935	81.9
Nonproducing enterprises—Petroleum and natural gas.....	179	85	91	106	122	141	183	179	213	234	249	266	279	30.5

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TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.				NONPRODUCING ENTERPRISES. ²
		Total.	Petroleum and natural gas. ¹	Coal, bituminous.	All other. ³	Petroleum and natural gas.
Number of enterprises.....	688	624	553	33	38	64
Number of mines and quarries.....	81	81		42	39	
Number of petroleum and natural-gas wells.....	8,749	8,749	8,749			
Number of natural-gas gasoline plants.....	23	23	23			
Capital.....	\$378,790,072	\$361,684,392	\$384,206,706	\$8,682,267	\$18,795,320	\$17,105,680
Principal expenses:						
Salaries and wages—						
Officers.....	\$1,309,695	\$1,235,445	\$915,859	\$107,349	\$212,237	\$74,250
Superintendents and managers.....	\$2,558,017	\$2,484,075	\$2,166,642	\$100,040	\$217,393	\$73,942
Technical employees.....	\$559,113	\$549,040	\$449,161	\$10,000	\$89,879	\$10,073
Clerks, etc.....	\$2,232,528	\$2,161,398	\$1,922,928	\$53,142	\$185,327	\$71,130
Wage earners.....	\$29,923,629	\$29,557,997	\$24,589,129	\$2,849,526	\$2,139,342	\$365,632
Supplies and materials.....	\$46,560,698	\$46,040,955	\$42,780,088	\$387,935	\$1,872,932	\$1,519,743
Cost of natural gas purchased as material and for resale.....	\$360,637	\$360,637	\$360,637			
Fuel.....	\$6,222,720	\$6,098,100	\$4,372,195	\$83,490	\$1,637,415	\$129,614
Power.....	\$96,453	\$96,453	\$55,655	\$597	\$40,201	
Royalties and rents.....	\$24,016,403	\$23,912,179	\$23,750,848	\$84,505	\$76,823	\$104,224
Taxes.....	\$4,050,274	\$4,045,981	\$3,611,261	\$74,065	\$360,655	\$4,293
Contract.....	\$26,612,163	\$25,773,700	\$25,766,167	\$4,543	\$3,000	\$838,463
Expenditures for development (included in the above items).....	\$74,574,988	\$71,703,732	\$71,259,170	\$107,065	\$337,497	\$2,871,256
Value of products.....	\$160,378,058	\$160,378,058	\$143,337,362	\$4,322,100	\$12,718,596	
Persons engaged in industry.....	23,222	22,890	17,904	2,362	2,124	332
Proprietors and firm members (total).....	494	484	453	4	27	10
Number performing manual labor.....	58	52	47	2	3	6
Salaried officers.....	352	329	262	44	23	23
Superintendents and managers.....	1,010	971	852	53	66	39
Technical employees.....	233	220	183	9	34	7
Clerks, etc.....	2,700	2,716	2,555	41	120	74
Wage earners (average number).....	18,343	18,164	13,509	2,711	1,854	170
Wage earners by occupation (Dec. 15):						
Above ground (total).....	19,025	18,715	16,588	394	1,733	310
Below ground (total).....	2,732	2,732		2,455	277	
Foremen, shift bosses, etc.—						
Above ground.....	131	131		43	88	
Below ground.....	65	65		56	9	
Enginemen, hoistmen, electricians, mechanics, etc.—						
Above ground.....	10,035	9,839	9,367	113	369	196
Below ground.....	86	86		85	1	
Miners, quarrymen, and drill men, including their helpers—						
Above ground.....	232	232		32	200	
Below ground.....	1,863	1,863		1,783	80	
Timbermen, trackmen, and men engaged, in hauling, tramping, etc.—						
Above ground.....	143	143		60	88	
Below ground.....	509	509		448	61	
Muckers, loaders, laborers, and others not classified—						
Above ground.....	8,280	8,166	7,231	146	789	114
Below ground.....	209	209		83	126	
Wage earners employed in mills and beneficiating plants—						
Above ground.....	199	199			199	
Number of females included in wage earners reported above—						
Above ground.....	35	35	35			
Number of wage earners under 16 years of age included in those reported above—						
Above ground.....	10	10		8	2	
Mineral and oil land operated..... acres	1,550,899	1,397,678	1,289,710	50,124	57,844	153,221
Land controlled, total..... acres	1,639,431	1,486,260	1,289,710	135,288	61,262	153,221
Mineral and oil land owned.....	108,413	107,867	35,245	32,433	40,139	546
Mineral and oil land leased.....	1,442,510	1,289,841	1,254,465	17,721	17,655	152,675
Timber and other lands owned and leased.....	88,552	88,552		85,134	3,418	
Power used: Aggregate horsepower.....	131,247	129,063	107,549	6,137	15,377	2,184
Prime movers (horsepower, total).....	128,093	125,909	106,174	6,042	13,693	2,184
Steam engines—						
Number.....	2,404	2,454	2,174	76	204	40
Horsepower.....	74,655	72,967	58,988	5,190	8,789	1,683
Steam turbines—						
Number.....	6	6		1	5	
Horsepower.....	2,700	2,700		100	2,600	
Internal-combustion engines—						
Number.....	1,854	1,829	1,734	11	84	25
Horsepower.....	50,736	50,240	47,180	752	2,302	496
Water wheels and turbines—						
Number.....	1	1			1	
Horsepower.....	2	2			2	
Purchased power (horsepower, total).....	3,154	3,154	1,375	95	1,684	
Electric motors operated by purchased current—						
Number.....	129	129	64	3	62	
Horsepower.....	3,154	3,154	1,375	95	1,684	
Electric motors run by current generated by enterprise using:						
Number.....	164	169	95	25	43	1
Horsepower.....	4,625	4,623	2,442	783	1,398	2
Fuel used:						
Coal, bituminous..... tons, 2,000 pounds.....	68,057	60,743	8,059	53,867	4,787	1,314
Coke..... tons, 2,000 pounds.....	5,170	5,170			5,170	
Wood..... cords.....	2,176	2,176			2,176	
Fuel oils..... barrels.....	2,899,651	2,739,860	2,332,649	880	406,351	159,791
Gasoline and other volatile oils..... barrels.....	14,187	13,287	9,527	155	3,605	900
Natural gas..... 1,000 cubic feet.....	10,774,715	10,396,846	10,285,933	110,913		377,869

¹ Not including a small operation inseparably combined with report on Oklahoma operations.² Includes enterprises as follows: Asphalt, 1; basalt, 1; clay, 2; fuller's earth, 1; gold and silver, lode mines, 1; granite, 8; graphite, 1; gypsum, 3; iron ore, 1; limestone, 12; marble, 1; quicksilver, 4; sulphur, 2.³ Exclusive of 1 coal-mining enterprise to avoid disclosure of individual operations.

UTAH.

Utah, which ranks tenth among the states in size (land area 82,184 square miles) and fortieth in population (449,396 in 1920), ranked eighteenth in value of mineral products in 1919. The state ranked twenty-first in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The gross amount received for products by operators of all mines and quarries in Utah in 1919 was \$41,510,802, an increase of 88 per cent as compared with the corresponding amount, \$22,083,282, reported at the census of 1909. After eliminating duplication for 1919 of \$297,961, the value of gold and silver ores marketed by some producers and again reported after further treatment and resale by others, and, for 1909 a similar duplication in the value of lead and zinc ores of \$106,910, the net value of products for 1919 is \$41,212,841 and for 1909, \$21,976,372. The figures for value of products for 1919 include receipts for mineral by-products, custom milling, power sold, and for work or miscellaneous services for other enterprises, which amounted to \$74,905.

The increases in value of products and in salaries, wages, cost of supplies and materials and fuel and power, as shown in Table 1, should not be used as a measure of the growth or progress of mining in Utah during the census period 1909 to 1919, for the reason that they are largely due to general price increases in recent years. Nor, on the other hand, are the decreases in number of enterprises and number of individual mines and quarries operated an indication of decline in mining, as these decreases are due, at least in part, to the temporarily adverse industrial conditions in 1919. The fact that, in the face of these conditions, there was only a slight falling off in the number of wage earners employed is a better indication of the sustained volume of operations in the industry in 1919. The large increase in taxes is due to the impost of Federal income taxes since 1909.

The mining industries reported for 1919, classified by principal products and listed in order of value of products, were copper, bituminous coal, gold and silver (lode), lead and zinc, asphalt, limestone, iron ore, gypsum, ores of rare metals (uranium and vanadium), clay, sandstone, phosphate rock, fluorspar, mineral pigments, and slate. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mining activities in Utah in 1919 were the mining and milling of gold, silver, copper, lead, and zinc ores. Sixty-one per cent of all mining enterprises were engaged in metalliferous lode mining, and these enterprises employed 59.7 per cent of the total number of wage earners and reported a product valued

at \$27,824,207, which was 67 per cent of the total value of mineral products of the state. The value of the products as here given is not the value of the metals produced or recoverable; it is the sales value of the mine and mill products—ores, concentrates, bullion, and mine-water precipitates—or the estimated equivalent of sales value when these were not sold by the producers but were smelted and refined by them. The statistics on smelting and refining operations and the value of the recovered metals, the final products, will be found in the reports of the census of manufactures. On the basis of combined products of gold, silver, copper, lead, and zinc lode mines Utah ranked fourth among the states. It was also fourth in rank in the value of output of mines of which the principal product was gold and silver, fourth in value of output of mines producing principally copper, and ninth in value of output of mines producing principally lead and zinc. Production of these metals was chiefly from the Big Cottonwood and Little Cottonwood districts and the Bingham district in Salt Lake County. Important production was obtained also from Juab, Summit, Utah, and Tooele Counties.

Coal mining was second in importance in Utah in 1919, with production valued at \$12,632,035, representing 30.4 per cent of the total value of mineral products of the state, and employing 37 per cent of the total number of wage earners. The principal producing county was Carbon in central Utah. There was some production also from Emery, Grand, Iron, Summit, and Uintah Counties.

The production of asphaltic materials was third in importance among the mining industries in Utah, which ranked first among the states in the output of such materials. Statistics for the industry in this state can not be shown, however, without disclosure of individual operations.

Operations for development on mining properties, not productive in 1919, were reported by 48 enterprises—1, an iron ore mine and the others, gold, silver, copper, lead or zinc mines. These enterprises, reporting a combined capital of \$8,521,338, employed 394 wage earners and expended \$1,695,273, which figures represent 3.8 per cent of the aggregate number of wage earners and 5 per cent of the aggregate expenditures reported for all mining operations in the state in 1919.

The character of organizations conducting mining enterprises in Utah in 1919 is shown in Table 3, which clearly brings out the extent of corporate control. Of all the enterprises, 81.6 per cent were operated by corporations, which employed 99.1 per cent of the total number of wage earners and reported 99.4 per cent of the total value of products. Table 3 also

MINES AND QUARRIES—UTAH.

shows that on a basis of average value of products per enterprise for all industries combined and for the metal-mining and coal-mining industries separately corporations conducted the largest enterprises.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in Utah, 85.1 per cent were in classes having no wage earners or fewer than 101, and the wage earners employed were only 20.2 per cent of the total number of wage earners. On the other hand, only 14.9 per cent of the total number of enterprises had more than 100 wage earners each, and these enterprises employed 79.8 per cent of the total number of wage earners. The larger enterprises were in the metal-mining and coal-mining industries.

Table 5 shows that in 42 per cent of the enterprises employing wage earners and for 31.2 per cent of the total number of wage earners the prevailing hours of labor were 44 to 53 and that in 50.7 per cent of the enterprises and for 67.1 per cent of the total number of wage earners the hours of labor were 54 to 62 per week. The 8-hour day was the rule with a 7-day week prevailing in the metal-mining industry and a 6-day week in the coal-mining industry.

The statistics for wage earners presented in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	141	188	-25.0	Capital.....	\$178,521,276	\$81,000,048	120.4
Number of mines and quarries.....	154	235	-33.3	Principal expenses:			
Persons engaged.....	10,768	10,820	-0.6	Salaries.....	1,916,913	1,197,527	60.1
Proprietors and firm members, total....	53	102	-48.0	Wages.....	17,196,652	8,986,851	91.4
Number performing manual labor in or about the mines and quarries.....	16	39	.....	Contract work.....	491,178	265,068	85.3
Salaried employees.....	858	629	36.4	Supplies and materials ²	8,043,453	4,027,324	99.7
Wage earners (average number).....	9,847	10,089	-2.4	Fuel and power.....	2,018,110	1,074,119	88.0
Power used (horsepower).....	86,181	47,226	82.4	Royalties and rents.....	150,955	71,911	109.9
				Taxes.....	2,065,154	211,920	374.5
				Value of products.....	41,510,802	22,083,282	88.0

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

² Includes cost of ore purchased as material.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	141	9,847	100.0	\$41,510,802	100.0	Coal, bituminous.....	27	3,647	37.0	\$12,632,035	30.4
Gold, silver, copper, lead, and zinc, lode mines.....	86	5,874	59.7	27,824,207	67.0	Limestone.....	7	148	1.5	291,234	0.7
						Rare metals ¹	5	17	0.2	37,958	0.1
						All other industries ²	16	161	1.6	725,368	1.7

¹ Uranium and vanadium.

² Includes enterprises in industries as follows: Asphalt, 3; clay, 3; fluorspar, 1; gypsum, 2; iron ore, 2; mineral pigments, 1; phosphate rock, 1; sandstone, 2; slate, 1.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	141	9,847	\$41,510,802	\$294,403	100.0	100.0	100.0
Corporation.....	115	9,760	41,252,243	358,715	81.6	99.1	99.4
Individual.....	12	45	139,168	11,597	8.5	0.5	0.3
Firm.....	14	43	119,391	8,528	9.9	0.4	0.3
GOLD, SILVER, COPPER, LEAD, AND ZINC, LODGE MINES.....	86	5,874	27,824,207	323,537	100.0	100.0	100.0
Corporation.....	77	5,849	27,719,741	359,997	89.5	99.6	99.6
Individual.....	4	10	55,794	13,949	4.7	0.2	0.2
Firm.....	5	15	48,672	9,734	5.8	0.3	0.2
COAL, BITUMINOUS.....	27	3,647	12,632,035	467,853	100.0	100.0	100.0
Corporation.....	18	3,619	12,554,081	697,449	66.7	99.2	99.4
Individual.....	3	9	19,545	6,515	11.1	0.2	0.2
Firm.....	6	19	58,409	9,735	22.2	0.5	0.5

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	141	100.0	9,847	100.0	COAL, BITUMINOUS.....	27	100.0	3,647	100.0
No wage earners.....	3	2.1	119	1.2	1 to 5.....	9	33.3	19	0.5
1 to 5.....	51	36.2	119	1.2	6 to 20.....	2	7.4	13	0.4
6 to 20.....	33	23.4	372	3.8	21 to 50.....	3	11.1	91	2.5
21 to 50.....	23	16.3	775	7.9	51 to 100.....	3	11.1	192	5.3
51 to 100.....	10	7.1	715	7.3	101 to 500.....	8	29.6	1,330	36.5
101 to 500.....	13	12.8	3,645	37.0	501 to 1,000.....	1	3.7	832	22.8
501 to 1,000.....	1	0.7	832	8.4	Over 1,000.....	1	3.7	1,170	32.1
Over 1,000.....	2	1.4	3,389	34.4	LIMESTONE.....	7	100.0	148	100.0
GOLD, SILVER, COPPER, LEAD, AND ZINC, LODE MINES.....	86	100.0	5,874	100.0	1 to 5.....	2	28.6	6	4.1
No wage earners.....	2	2.3	74	1.3	6 to 20.....	1	14.3	20	13.5
1 to 5.....	28	32.6	273	4.6	21 to 50.....	4	57.1	122	82.4
6 to 20.....	25	29.1	470	8.0	RARE METALS.....	5	100.0	17	100.0
21 to 50.....	13	15.1	523	8.9	1 to 5.....	4	80.0	6	35.3
51 to 100.....	7	8.1	2,315	39.4	6 to 20.....	1	20.0	11	64.7
101 to 500.....	10	11.6	2,219	37.8					
Over 1,000.....	1	1.2							

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
	Enterprises.	Wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.		63 to 71.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	138	9,847	1	7	5	69	58	3,070	70	6,612	4	80
Gold, silver, copper, lead, and zinc, lode mines.....	84	5,874			1	4	27	835	55	5,016	1	19
Coal, bituminous.....	27	3,647	1	7	4	65	16	2,143	5	1,430	1	2
Limestone.....	5	148					2	29	3	51	2	68
Rare metals.....	5	17					3	5	2	12		
All other industries.....	15	161					10	58	5	103		

¹ Exclusive of 3 enterprises employing no wage earners in industries as follows: Gold, silver, copper, lead, and zinc, lode mines 2; slate, 1.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	10,241	12,246	10,886	9,691	9,335	8,477	8,480	9,548	10,510	10,797	10,775	11,048	11,159	68.8
Producing enterprises.....	9,847	11,982	10,636	9,283	8,937	8,098	8,072	9,184	10,069	10,319	10,315	10,577	10,712	67.5
Gold, silver, copper, lead, and zinc, lode mines.....	5,874	7,925	6,663	5,549	5,371	4,604	4,585	5,335	5,995	6,171	6,147	6,134	6,069	57.1
Coal, bituminous.....	3,647	3,728	3,884	3,417	3,266	3,204	3,255	3,531	3,731	3,791	3,841	4,056	4,280	75.2
Limestone.....	148	158	142	104	156	146	144	158	152	108	112	149	129	67.5
Rare metals.....	17	1				2			19	27	42	57	56	1.8
All other industries.....	161	150	147	158	144	142	148	160	172	164	173	181	193	71.7
Nonproducing enterprises.....	394	254	250	408	398	379	348	364	441	478	460	471	447	52.3

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TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.						Non-producing enterprises. ⁴
		Total.	Gold, silver, copper, lead, and zinc, lode mines. ¹	Coal, bituminous.	Limestone.	Rare metals. ²	All other. ³	
Number of enterprises.....	189	141	80	27	7	5	16	48
Number of mines and quarries.....	202	154	88	34	8	5	19	48
Capital.....	\$187,042,614	\$178,521,276	\$141,626,488	\$32,831,106	\$194,530	\$46,600	\$3,924,652	\$8,521,338
Principal expenses:								
Salaries and wages—								
Officers.....	\$385,571	\$369,099	\$233,850	\$117,994	\$805		\$16,650	\$16,472
Superintendents and managers.....	\$394,246	\$644,232	\$458,095	\$140,576	\$14,742	\$3,371	\$27,538	\$50,014
Technical employees.....	\$238,718	\$266,620	\$216,368	\$50,252				\$2,098
Clerks, etc.....	\$641,706	\$636,902	\$357,634	\$263,071	\$1,031	\$700	\$14,526	\$1,744
Wage earners.....	\$17,767,081	\$17,190,652	\$9,176,378	\$7,598,767	\$187,171	\$18,075	\$216,261	\$571,029
Supplies and materials.....	\$8,608,844	\$7,745,492	\$5,950,733	\$1,564,955	\$41,139	\$12,728	\$175,037	\$363,362
Cost of ore purchased as material.....	\$297,961	\$297,961	\$297,961					
Fuel.....	\$854,969	\$834,480	\$643,734	\$169,948	\$5,438	\$295	\$15,015	\$20,469
Power.....	\$1,233,253	\$1,184,630	\$1,072,915	\$99,096	\$7,227		\$5,392	\$18,623
Royalties and rents.....	\$168,031	\$150,955	\$95,033	\$59,273	\$2,000	\$565	\$13,484	\$17,076
Taxes.....	\$2,076,036	\$2,065,154	\$1,538,738	\$462,169	\$1,216	\$10	\$43,031	\$9,882
Contract work.....	\$617,596	\$401,178	\$486,878				\$4,300	\$126,418
Expenditures for development (included in the above items).....	\$4,863,916	\$3,168,643	\$2,894,494	\$224,666	\$3,000	\$7,142	\$30,441	\$1,606,273
Value of products.....	\$41,510,802	\$41,510,802	\$27,824,207	\$12,632,035	\$291,234	\$37,958	\$725,368	
Persons engaged in industry.....	11,246	10,758	6,448	3,026	159	27	193	488
Proprietors and firm members (total).....	76	53	13	26		5	9	23
Number performing manual labor.....	16	10	5	9		1	1	
Salaried officers.....	117	96	57	35			4	21
Superintendents and managers.....	239	200	128	40	9	4	13	30
Technical employees.....	133	133	110	23				2
Clerks, etc.....	444	426	266	140	2	1	11	18
Wage earners (average number).....	10,241	9,847	5,874	3,647	148	17	161	394
Wage earners, by occupation (Dec. 15):								
Above ground (total).....	4,665	4,430	2,885	1,363	159	35	94	129
Below ground (total).....	6,722	6,370	3,341	2,002		22	105	352
Foremen, shift bosses, etc.—								
Above ground.....	204	190	145	26	7	3	0	14
Below ground.....	176	159	123	32		1	3	17
Engineers, hoistmen, electricians, mechanics, etc.—								
Above ground.....	1,158	1,124	817	289	10		8	34
Below ground.....	528	494	286	208				34
Miners, quarrymen, and drillmen, including their helpers—								
Above ground.....	345	327	245	5	53	10	14	18
Below ground.....	2,651	2,510	1,117	1,343		12	38	141
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—								
Above ground.....	955	943	415	511	7	5	5	12
Below ground.....	1,578	1,516	620	850		3	34	62
Muckers, loaders, laborers, and others not classified—								
Above ground.....	1,065	1,014	345	532	82	17	38	51
Below ground.....	1,789	1,601	1,195	460		6	30	98
Wage earners employed in mills and beneficiating plants—								
Above ground.....	938	938	918				20	
Number of females included in wage earners reported above—								
Above ground.....	20	12	2	8		2		8
Mineral land operated..... acres.....	341,400	324,582	264,360	46,891	1,931	1,774	9,626	10,878
Land controlled, total..... acres.....	358,590	339,962	288,546	56,665	1,931	1,774	11,046	18,598
Mineral land owned..... acres.....	334,385	319,143	261,283	44,532	1,809	603	10,916	15,242
Mineral land leased.....	8,669	7,023	3,081	2,519	122	1,171	130	1,636
Timber and other lands owned and leased.....	15,516	13,795	4,182	9,614				1,720
Power used: Aggregate horsepower.....	89,629	88,131	61,085	24,029	360		657	3,498
Prime movers (horsepower, total).....	31,879	31,083	20,601	9,840	75		567	796
Steam engines—								
Number.....	279	275	229	40	3		3	4
Horsepower.....	26,925	26,780	18,735	7,755	60		180	195
Steam turbines—								
Number.....	4	4		4				
Horsepower.....	2,085	2,085		2,085				
Internal-combustion engines—								
Number.....	40	22	18		1		3	18
Horsepower.....	1,032	471	403		15		53	561
Water wheels and turbines—								
Number.....	9	8	5				3	1
Horsepower.....	1,337	1,797	1,463				334	40
Purchased power (horsepower, total).....	57,750	55,048	40,484	14,189	285		90	2,702
Electric motors operated by purchased current—								
Number.....	2,416	2,300	2,018	276	3		3	116
Horsepower.....	57,325	54,733	40,169	14,189	285		90	2,592
Other equipment operated by purchased power—								
Horsepower.....	425	315	315					110
Electric motors run by current generated by enterprise using:								
Number.....	186	166	23	143				20
Horsepower.....	8,875	8,645	881	7,764				230
Fuel used:								
Coal, bituminous..... tons, 2,000 pounds.....	6 198,824	6 197,397	111,853	82,907	760	2	6 1,875	1,427
Coke..... tons, 2,000 pounds.....	1,123	1,123	1,123					
Wood..... cords.....	334	39	9			30		295
Fuel oils..... barrels.....	3,626	2,276	1,357		736		183	1,350
Gasoline and other volatile oils..... barrels.....	1,736	1,487	1,466		31		47	249

¹ Includes 1 reduction mill operated independently of mines and 2 operations on dumps and old tailings.

² Uranium and vanadium.

³ Includes enterprises as follows: Asphalt, 3; clay, 3; flourspar, 1; gypsum, 2; iron ore, 2; mineral pigments, 1; phosphate rock, 1; sandstone, 2; slate, 1.

⁴ Includes enterprises as follows: Gold, silver, copper, lead, or zinc, lode mines, 47; iron ore, 1.

⁵ Includes 31 tons (net) anthracite coal.

VERMONT.

Vermont, which ranks forty-second among the states in size (land area 9,124 square miles) and forty-fifth in population (352,428 in 1920), ranked thirty-third in mineral production in 1919. On the basis of total number of persons engaged in the mining industries and the average number of wage earners employed, the state also ranked thirty-third.

The total value of products for all mines and quarries was \$8,555,030, which was an increase of 4.1 per cent over the corresponding amount reported at the census of 1909. This increase and the increases in salaries, cost of supplies and materials and fuel and power, as shown in Table 1, are largely due to general price increases. An actual decrease in quarrying and mining in Vermont is indicated by the decrease in the number of enterprises, number of mines and quarries operated, and the large decrease in the average number of wage earners employed in the industries. The addition of Federal income taxes since 1909 will account for the large increase in taxes shown.

The mining and quarrying industries reported in Vermont for 1919 were granite, marble, slate, talc and soapstone, limestone, clay, and copper. Although low in rank on the basis of total mineral production, Vermont ranked first among the states in the production of granite and marble, and second in the production of slate and talc and soapstone. These principal industries—granite, marble, slate, and talc and soapstone—accounted for 98.1 per cent of the total value of mineral products and employed 97.6 per cent of all wage earners engaged in the mines and quarries of Vermont in 1919. The quarrying and mining industries in Vermont are ranked by value of products for 1919 in Table 2, which also shows a different order of rank on the basis of number of wage earners employed.

The granite industry, which leads all other mineral industries in the state, reported products to the amount of \$3,563,734, which was 41.7 per cent of the total value of products of all mines and quarries in Vermont and was 19.5 per cent of the total value of products for the granite industry of the United States (\$18,279,345) in 1919. The production of granite was reported chiefly from Washington County, but also from Caledonia, Orange, Orleans, and Windham Counties.

The marble industry, which was second in importance in the state in 1919, reported products valued at \$2,108,872, or 24.7 per cent of the total value of all mineral products in the state and 48 per cent of the total value of products of the marble quarrying industry in the United States (\$4,397,912). The production of marble, reported chiefly from Rutland County, was

also reported from Addison, Bennington, Franklin, and Washington Counties.

The Vermont slate quarrying industry, which was third in rank among the mineral industries in the state for 1919 with a production valued at \$2,057,388, or 24 per cent of the total value of all mineral products in the state, was second only to that of Pennsylvania and amounted to 36 per cent of the total value of products for the slate-quarrying industry in the United States (\$5,720,792). The production reported from Vermont was quarried in Rutland County.

Talc and soapstone mining was fourth in importance among the mineral industries in Vermont in 1919 with a production valued at \$663,261, or 7.8 per cent of the total value of all mineral products in the state and 28.8 per cent of the total value of products of the talc and soapstone industry in the United States (\$2,302,393). The production of talc and soapstone in Vermont in 1919 came from Addison, Lamoille, Washington, Windham, and Windsor Counties.

Table 3 shows that among the operators of quarries and mines in Vermont corporations are in the majority. Enterprises having this form of organization conducted 61.3 per cent of the total number of enterprises, employed 83.8 per cent of the total number of wage earners, and reported 88.8 per cent of the total value of products.

The relatively large number of small enterprises, as determined by the average number of wage earners employed, is shown in Table 4. Of the total number of enterprises in Vermont in 1919, 92.5 per cent were in classes having no wage earners or less than 101, and such enterprises employed 58.5 per cent of the total number of wage earners. Enterprises employing more than 100 wage earners numbered 7 and constituted 7.5 per cent of the total number of enterprises, and employed 41.5 of the total number of wage earners. These larger enterprises were all in the principal quarrying industries—granite, marble, and slate.

Table 5 shows that in 57.6 per cent of all enterprises employing wage earners and for 52.1 per cent of the wage earners the hours of labor were 54 to 62 per week. In the marble and slate industries the 9-hour day prevailed, while in the granite industry shorter hours were reported.

The statistics for wage earners given in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

MINES AND QUARRIES—VERMONT.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	98	137	-32.1	Capital.....	\$10,710,058	\$13,992,096	-23.5
Number of mines and quarries.....	109	182	-40.1	Principal expenses:			
Persons engaged.....	3,239	3,658	-62.6	Salaries.....	448,733	370,237	21.2
Proprietors and firm members, total.....	60	160	-62.5	Wages.....	3,041,551	4,449,315	-31.6
Number performing manual labor in or about the mines and quarries.....	18	68	-73.3	Contract work.....	91,750	64,698	41.8
Salaried employees.....	243	353	-31.2	Supplies and materials.....	1,272,796	905,157	40.6
Wage earners (average number).....	2,936	3,146	-64.0	Fuel and power.....	425,398	362,438	17.4
Power used (horsepower).....	28,119	25,668	9.5	Royalties and rents.....	58,506	84,332	-30.6
				Taxes.....	306,564	72,147	324.9
				Value of products.....	8,555,030	8,221,323	4.1

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	93	2,936	100.0	\$8,555,030	100.0	Slate.....	38	1,039	35.4	\$2,057,388	24.0
Granite.....	27	1,062	36.2	3,563,734	41.7	Talc and soapstone.....	6	195	6.6	663,261	7.8
Marble.....	15	570	19.4	2,108,872	24.7	Limestone.....	4	40	1.4	76,152	0.9
						All other industries ¹	3	30	1.0	85,623	1.0

¹ Includes enterprises in industries as follows: Clay, 1; copper, 2.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	93	2,936	\$8,555,030	\$91,990	100.0	100.0	100.0
Corporation.....	57	2,461	7,596,820	133,278	61.3	83.8	83.8
Individual.....	19	215	643,725	28,617	20.4	7.3	6.4
Firm ¹	17	260	414,485	24,381	18.3	8.9	4.8
GRANITE.....	27	1,062	3,563,734	131,990	100.0	100.0	100.0
Corporation.....	13	919	3,153,017	242,540	48.1	86.5	88.5
Individual and firm.....	14	143	410,717	29,337	51.9	13.5	11.5
MARBLE AND LIMESTONE.....	19	610	2,165,024	115,001	100.0	100.0	100.0
Corporation.....	16	593	2,154,096	134,631	84.2	97.2	98.6
Individual.....	3	17	30,928	10,369	15.8	2.8	1.4
SLATE.....	38	1,039	2,057,388	54,142	100.0	100.0	100.0
Corporation.....	21	742	1,605,968	76,475	55.3	71.4	73.1
Individual.....	3	52	89,730	29,930	7.9	5.0	4.4
Firm ¹	14	245	361,630	25,831	30.8	23.6	17.6

¹ Includes 1 other form of organization.

MINES AND QUARRIES—VERMONT.

TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	93	100.0	2,936	100.0	MARBLE.....	15	100.0	570	100.0
No wage earners.....	1	1.1			1 to 5.....	2	13.3	3	0.5
1 to 5.....	21	22.6	59	2.0	6 to 20.....	6	40.0	71	12.5
6 to 20.....	32	34.4	375	12.8	21 to 50.....	5	33.3	153	26.8
21 to 50.....	25	26.9	788	26.8	101 to 500.....	2	13.3	343	60.2
51 to 100.....	7	7.5	496	16.9	TALC AND SOAPSTONE.....	6	100.0	195	100.0
101 to 500.....	7	7.5	1,218	41.5	6 to 20.....	3	50.0	38	19.5
GRANITE.....	27	100.0	1,082	100.0	21 to 50.....	1	16.7	23	11.8
No wage earners.....	1	3.7			51 to 100.....	2	33.3	134	68.7
1 to 5.....	11	40.7	25	2.4	LIMESTONE.....	4	100.0	40	100.0
6 to 20.....	4	14.8	51	4.8	1 to 5.....	1	25.0	5	12.5
21 to 50.....	6	22.2	211	19.9	6 to 20.....	2	50.0	12	30.0
51 to 100.....	2	7.4	145	13.7	21 to 50.....	1	25.0	23	57.5
101 to 500.....	3	11.1	630	59.3	SLATE.....	38	100.0	1,039	100.0
1 to 5.....	6	15.8	23	2.2	1 to 5.....	6	15.8	23	2.2
6 to 20.....	15	39.5	176	16.9	6 to 20.....	15	39.5	176	16.9
21 to 50.....	12	31.6	378	36.4	21 to 50.....	12	31.6	378	36.4
51 to 100.....	3	7.9	217	20.9	51 to 100.....	3	7.9	217	20.9
101 to 500.....	2	5.3	245	23.6	101 to 500.....	2	5.3	245	23.6

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—				INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—			
	Enterprises.	Wage earners.	36 to 43.		54 to 62.			Enterprises.	Wage earners.	36 to 43.		54 to 62.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.				Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	192	2,936	39	1,405	53	1,531	Marble.....	15	570		15	570	
Granite.....	120	1,082	28	1,062		704	Talc and soapstone.....	6	195		6	195	
Slate.....	38	1,039	11	335	27	704	Limestone.....	4	40	1	5	3	35
							All other.....	3	30	1	3	2	27

¹ Exclusive of 1 enterprise employing no wage earners.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	2,036	2,725	2,608	2,721	2,856	3,015	3,156	3,146	2,877	2,860	3,005	3,082	3,091	85.5
Granite.....	1,082	<i>865</i>	907	892	1,003	1,090	1,171	1,171	1,185	1,132	1,170	1,098	1,100	72.2
Slate.....	1,039	983	976	981	1,039	1,099	1,162	1,180	877	885	976	1,149	1,167	73.8
Marble.....	570	<i>500</i>	530	566	585	614	601	572	579	588	600	561	538	82.4
Talc and soapstone.....	195	234	180	172	183	169	<i>162</i>	171	191	201	211	220	248	65.9
Limestone.....	40	40	34	39	36	61	48	41	38	41	35	39	23	45.9
All other industries.....	30	107	71	71	10	12	12	11	13	13	13	15	12	9.3

MINES AND QUARRIES—VERMONT.

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.						
	Total.	Granite.	Marble.	Slate.	Talc and soapstone.	Limestone.	All other. ¹
Number of enterprises.....	93	27	15	33	6	4	3
Number of mines and quarries.....	109	31	25	39	7	4	3
Capital.....	\$10,710,068	\$3,202,754	\$3,627,551	\$2,212,813	\$1,241,879	\$151,061	\$274,000
Principal expenses:							
Salaries and wages—							
Officers.....	\$192,907	\$78,887	\$30,024	\$52,027	\$31,969		\$6,066
Superintendents and managers.....	\$166,019	\$47,853	\$13,189	\$64,472	\$30,124	\$4,315	\$6,966
Technical employees.....	\$5,653	\$1,003	\$1,200	\$1,575		\$500	\$1,375
Clerks, etc.....	\$83,254	\$21,109	\$25,554	\$26,129	\$7,009	\$2,478	\$975
Wage earners.....	\$3,041,551	\$1,225,256	\$553,075	\$976,143	\$214,523	\$35,793	\$30,451
Supplies and materials.....	\$1,272,796	\$778,459	\$180,320	\$226,644	\$58,623	\$24,460	\$4,250
Fuel.....	\$220,270	\$135,472	\$13,349	\$53,833	\$32,615	\$5,690	\$7,812
Power.....	\$205,122	\$39,379	\$37,211	\$97,221	\$28,270	\$990	\$2,051
Royalties and rents.....	\$65,606	\$7,609	\$10,700	\$34,103	\$9,094		
Taxes.....	\$306,564	\$182,786	\$86,185	\$23,788	\$12,500	\$795	\$530
Contract work.....	\$91,750	\$61,980		\$10,637	\$19,133		
Expenditures for development (included in the above items).....	\$36,499	\$25,444	\$500	\$10,555			
Value of products.....	\$8,555,030	\$3,563,734	\$2,108,872	\$2,057,388	\$663,261	\$76,152	\$85,623
Persons engaged in industry.....	3,239	1,138	610	1,171	226	52	42
Proprietors and firm members (total).....	60	16		33	1	3	2
Number performing manual labor.....	18	7		11			
Salaried officers.....	52	14	3	25	10		4
Superintendents and managers.....	86	21	6	37	14	4	4
Technical employees.....	11	2	1	3		1	1
Clerks, etc.....	94	23	30	29	6	4	2
Wage earners (average number).....	2,936	1,062	570	1,039	195	40	30
Wage earners by occupation (Dec. 15):							
Above ground (total).....	2,983	1,112	599	904	172	51	55
Below ground (total).....	339			208	73		58
Foremen, shift bosses, etc.—							
Above ground.....	164	62	20	65	8	2	7
Below ground.....	15			8			3
Enginemen, hoistmen, electricians, mechanics, etc.—							
Above ground.....	338	141	33	128	15	4	17
Below ground.....	7			2	3		2
Miners, quarrymen, and drillmen, including their helpers—							
Above ground.....	1,420	608	341	404		4	3
Below ground.....	175			148	17		10
Timbermen, trackmen, and men engaged in hauling, tramping, etc.—							
Above ground.....	55	23	0	7	3	11	2
Below ground.....	23				15		8
Muckers, loaders, laborers, and others not classified—							
Above ground.....	353	135	18	160	12	28	5
Below ground.....	119			50	34		35
Wage earners employed in mills and beneficiating plants—							
Above ground.....	648	83	178	230	134	2	21
Mineral land operated..... acres..	16,048	1,937	9,448	1,355	2,733	80	445
Land controlled, total..... acres..	18,160	2,748	9,670	2,323	2,745	83	600
Mineral land owned.....	14,417	1,932	8,408	825	2,727	80	445
Mineral land leased.....	1,631	55	1,040	530	6		
Timber and other lands owned and leased.....	2,121	761	222	968	12	3	155
Power used: Aggregate horsepower.....	28,119	10,789	7,354	6,447	2,073	483	973
Prime movers (horsepower, total).....	8,990	6,112	910	458	527	408	575
Steam engines—							
Number.....	120	88	7	12	6	6	1
Horsepower.....	5,887	3,837	690	357	520	408	75
Steam turbines—							
Number.....	1	1					
Horsepower.....	1,500	1,500					
Internal-combustion engines—							
Number.....	3	2				1	
Horsepower.....	32	25				7	
Water wheels and turbines—							
Number.....	7	2	1	2			2
Horsepower.....	1,571	760	220	101			500
Purchased power (horsepower, total).....	19,129	4,677	6,444	5,989	1,546	75	398
Electric motors operated by purchased current—							
Number.....	696	86	310	237	44	3	16
Horsepower.....	19,109	4,657	6,444	5,989	1,546	75	398
Other equipment operated by purchased power—							
Horsepower.....	20	20					
Electric motors run by current generated by enterprise using:							
Number.....	26		9	4		5	8
Horsepower.....	664		245	44		105	180
Fuel used:							
Coal, anthracite..... tons, 2,240 pounds..	2,328	1,561	206	150	405		
Coal, bituminous..... tons, 2,000 pounds..	24,886	14,537	2,035	3,573	2,349	857	1,000
Coke..... tons, 2,000 pounds..	218				218		
Wood..... cords..	281	140	23	39	57	2	
Gasoline and other volatile oils..... barrels..	87	15			50	2	

¹ Includes enterprises as follows: Clay, 1; copper, 2.² Includes 3 female wage earners reported by 1 enterprise.

VIRGINIA.

Virginia, which ranks thirty-third among the states in size (land area 40,262 square miles) and twentieth in population (2,309,187 in 1920), ranked twenty-first in value of mineral products for 1919. The state ranked eighteenth in both the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The total value of products of all mines and quarries in Virginia in 1919 was \$29,363,449, an increase of 233.8 per cent over the corresponding amount reported at the census of 1909. This increase and the increases in wages, cost of supplies and materials and fuel and power, as shown in Table 1, are due in large part to general price increases during the census interval and are not a proper measure of growth. Nor, on account of these large increases, can the small decreases in number of mines and quarries operated and the average number of wage earners employed be interpreted as indicating a decline in mining.

The mining industries reported in Virginia in 1919, classified according to principal products and listed in order of value of products, were bituminous coal, limestone, iron ore, pyrite, talc and soapstone, gypsum, granite, slate, manganese ore, mica, barytes, ores of rare metals (titanium), millstones, sandstone, clay, mineral pigments, and abrasive materials. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mining industry in Virginia in 1919 was the production of bituminous coal. This industry included 108 out of a total of 202 enterprises in the state, employed 77.1 per cent of the total number of wage earners, and reported products to the value of \$23,763,440, or 80.9 per cent of the total value of products of the state. The productive coal fields were in 8 southwestern counties which produced high-rank bituminous coals suitable for a variety of uses. Virginia in 1919 was ninth in order of importance among the coal-producing states.

Among the industries of minor importance in the state were pyrite mining with products valued at \$864,974, by which Virginia gained first place in this industry in the United States in 1919; talc and soapstone mining in which Virginia ranked third; and the

production of millstones in which Virginia ranked second.

In addition to the operations of producing enterprises there were reported only relatively unimportant operations for the purpose of development of non-producing properties.

The mining enterprises in the state of Virginia in 1919 are classified according to character of operating organization in Table 3, which shows that for all industries combined and for the principal industries corporations outnumbered other forms of organization, employed the greatest number of wage earners, and reported the largest part of the value of products.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in Virginia 167, or 82.7 per cent, were in classes having fewer than 101 wage earners, and these enterprises employed 30.2 per cent of the total number of wage earners. On the other hand, only 35 enterprises had more than 100 wage earners each and these enterprises employed 69.8 per cent of the total number of wage earners. Of the larger enterprises 28 were in the coal-mining industry, and the remainder in the gypsum, limestone, pyrite, and talc and soapstone industries.

Table 5 shows that in 47.5 per cent of the total number of mining enterprises and for 73.6 per cent of the total number of wage earners, the hours of labor were 44 to 53 per week, and that in 46.5 per cent of the enterprises and for 23.4 per cent of the wage earners the hours of labor were 54 to 62 per week. In the coal-mining industry the hours which prevailed were 44 to 53 per week, and the 8-hour day and 6-day week was the rule. In other mining industries and in the quarrying industries the prevailing hours were 54 to 62 per week and the 10-hour day and 6-day week was the rule.

The statistics for wage earners presented in Table 6, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without disclosure of individual operations.

MINES AND QUARRIES—VIRGINIA.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	202	150	34.7	Capital.....	\$57,035,775	\$55,992,693	1.9
Number of mines and quarries.....	216	244	-11.5	Principal expenses:			
Persons engaged.....	15,537	15,960	-2.7	Salaries.....	1,600,162	612,621	175.9
Proprietors and firm members, total.....	71	86		Wages.....	10,108,240	5,228,787	208.0
Number performing manual labor in or about the mines and quarries.....	19	15		Contract work.....	340,851	119,028	186.4
Salaried employees.....	919	617	48.9	Supplies and materials.....	4,760,370	1,173,866	305.5
Wage earners (average number).....	14,547	15,257	-4.7	Fuel and power.....	1,216,894	484,527	151.2
Power used (horsepower).....	57,880	34,680	67.1	Royalties and rents.....	830,435	418,353	98.5
				Taxes.....	1,243,018	150,074	728.9
				Value of products.....	29,363,449	8,795,646	233.8

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	202	14,547	100.0	\$20,363,449	100.0	Pyrite.....	5	549	3.8	\$864,974	2.9
Coal, bituminous.....	108	11,215	77.1	23,763,440	80.9	Granite.....	7	157	1.1	259,569	0.9
Limestone.....	31	777	5.3	1,610,544	5.5	Slate.....	4	210	1.4	203,068	0.7
Iron ore.....	21	623	4.3	1,186,127	4.0	Manganese.....	9	119	0.8	183,864	0.6
						All other industries ¹	17	897	6.2	1,291,863	4.4

¹ Includes enterprises in industries as follows: Abrasive materials, 1; barytes, 1; clay, 1; gypsum, 2; mica, 2; millstones, 2; mineral pigments, 1; rare metals (titanium), 1; sandstone, 2; talc and soapstone, 4.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	202	14,547	\$20,363,449	\$145,364	100.0	100.0	100.0
Corporation.....	164	13,998	28,312,160	172,635	81.2	96.2	98.4
Individual.....	16	119	181,542	11,546	7.9	0.8	0.5
Firm ¹	22	430	869,708	39,532	10.9	3.0	3.0
COAL, BITUMINOUS.....	108	11,215	23,763,440	220,032	100.0	100.0	100.0
Corporation.....	88	11,032	23,457,245	268,500	81.5	98.4	98.7
Individual.....	9	80	150,020	10,070	8.3	0.8	0.8
Firm.....	11	94	156,169	14,197	10.2	0.8	0.7
LIMESTONE.....	31	777	1,610,544	51,953	100.0	100.0	100.0
Corporation.....	19	483	954,563	50,240	61.3	62.2	59.2
Individual.....	4	10	12,500	3,125	12.9	1.3	0.3
Firm.....	8	284	643,481	80,435	25.8	36.6	40.0
IRON ORE.....	21	623	1,186,127	56,482	100.0	100.0	100.0
Corporation.....	21	623	1,186,127	56,482	100.0	100.0	100.0
PYRITE.....	5	549	864,974	172,095	100.0	100.0	100.0
Corporation.....	5	549	864,974	172,095	100.0	100.0	100.0
GRANITE.....	7	157	259,569	37,081	100.0	100.0	100.0
Corporation.....	4	105	189,511	47,378	57.1	66.9	73.0
Firm ¹	3	52	70,058	23,353	42.9	33.1	27.0
SLATE.....	4	210	203,068	50,767	100.0	100.0	100.0
Corporation.....	4	210	203,068	50,767	100.0	100.0	100.0

¹ Includes 1 other form of organization.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	202	100.0	14,547	100.0	IRON ORE.....	21	100.0	623	100.0
1 to 5.....	40	19.8	131	0.9	1 to 5.....	5	23.8	18	2.9
6 to 20.....	56	27.7	668	4.6	6 to 20.....	5	23.8	59	9.5
21 to 50.....	41	20.3	1,450	10.0	21 to 50.....	9	42.9	400	64.2
51 to 100.....	30	14.9	2,143	14.7	51 to 100.....	2	9.5	146	23.4
101 to 500.....	29	14.4	6,314	43.4					
501 to 1,000.....	6	3.0	3,841	26.4	PYRITE.....	5	100.0	549	100.0
COAL, BITUMINOUS.....	108	100.0	11,215	100.0	51 to 100.....	2	40.0	146	26.6
1 to 5.....	19	17.6	64	0.6	101 to 500.....	3	60.0	403	73.4
6 to 20.....	28	25.9	318	2.8					
21 to 50.....	14	13.0	450	4.0	SLATE.....	4	100.0	210	100.0
51 to 100.....	19	17.6	1,410	12.6	21 to 50.....	2	50.0	82	39.0
101 to 500.....	22	20.4	5,132	45.8	51 to 100.....	2	50.0	128	61.0
501 to 1,000.....	6	6.6	3,841	34.2					
LIMESTONE.....	31	100.0	777	100.0	GRANITE.....	7	100.0	157	100.0
1 to 5.....	10	32.3	27	3.5	6 to 20.....	3	42.9	32	20.4
6 to 20.....	8	25.8	114	14.7	21 to 50.....	3	42.9	67	42.7
21 to 50.....	8	25.8	239	30.8	51 to 100.....	1	14.3	58	36.9
51 to 100.....	3	9.7	192	24.7					
101 to 500.....	2	6.5	205	26.4					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
	Enterprises.	Wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.		72 to 84.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	202	14,547	4	105	6	318	96	10,711	94	3,401	2	12
Coal, bituminous.....	108	11,215	4	105	5	310	84	10,413	13	375	2	12
Limestone.....	31	777					4	62	27	716		
Iron ore.....	21	623					3	50	18	667		
Pyrite.....	5	540					1	147	4	402		
Slate.....	4	210						4	4	210		
Granite.....	7	157						11	6	140		
Manganese.....	9	119			1	8		1	7	107		
All other industries.....	17	897					2	18	15	879		

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	14,666	15,067	14,657	13,820	13,406	13,856	13,843	14,920	15,208	15,385	15,539	15,125	15,207	80.3
Producing enterprises.....	14,517	14,932	14,541	13,722	13,308	13,746	13,732	14,821	15,006	15,224	15,398	14,982	15,062	86.4
Coal, bituminous.....	11,215	11,759	11,343	10,470	9,974	10,242	10,513	11,354	11,690	11,750	11,998	11,045	11,855	83.1
Limestone.....	777	650	611	637	815	892	809	855	862	878	897	762	833	68.5
Iron ore.....	623	791	764	781	598	533	536	549	554	556	589	613	642	67.5
Pyrite.....	549	690	602	545	521	533	536	549	554	556	589	613	642	64.7
Slate.....	210	162	166	189	195	202	234	225	237	234	223	226	226	68.4
Granite.....	157	84	90	139	173	183	179	188	173	173	175	162	147	44.7
Manganese.....	119	56	214	235	243	276	94	83	63	65	40	25	28	9.4
All other industries.....	897	770	751	746	786	905	933	1,020	909	970	991	950	933	73.1
Nonproducing enterprises.....	119	135	116	98	98	110	111	108	112	111	141	143	145	67.6

MINES AND QUARRIES—VIRGINIA.

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.									Nonproducing enterprises. ¹
		Total.	Coal, bituminous. ¹	Limestone.	Iron ore.	Pyrite.	Granite.	Slate.	Manganese.	All other. ²	
Number of enterprises.....	206	202	108	31	21	5	7	4	9	17	4
Number of mines and quarries.....	220	216	118	32	22	5	7	5	9	18	4
Capital.....	\$58,352,012	\$67,035,775	\$40,789,454	\$1,825,288	\$2,331,315	\$1,160,933	\$368,500	\$289,024	\$1,153,404	\$3,112,797	\$1,317,137
Principal expenses:											
Salaries and wages—											
Officers.....	\$402,594	\$399,504	\$310,716	\$15,612	\$5,765	\$5,825	\$7,520	\$10,650	\$12,056	\$31,450	\$3,000
Superintendents and managers.....	\$687,259	\$674,231	\$492,694	\$34,222	\$38,303	\$28,582	\$10,520	\$6,140	\$13,011	\$50,759	\$13,028
Technical employees.....	\$80,384	\$75,254	\$69,655	.....	\$2,054	\$2,400	.....	.....	\$1,145	.....	\$5,130
Clerks, etc.....	\$551,547	\$541,083	\$427,064	\$24,218	\$15,737	\$32,648	\$2,200	\$2,719	\$4,131	\$32,371	\$10,461
Wage earners.....	\$10,207,808	\$16,108,249	\$12,961,591	\$682,902	\$652,826	\$681,621	\$135,435	\$152,491	\$116,666	\$724,717	\$99,559
Supplies and materials.....	\$4,837,172	\$4,760,370	\$3,432,448	\$437,142	\$238,477	\$202,435	\$18,248	\$7,453	\$42,439	\$381,728	\$76,802
Fuel.....	\$746,182	\$740,008	\$283,796	\$117,151	\$51,645	\$144,143	\$12,252	\$16,497	\$10,901	\$103,713	\$6,084
Power.....	\$483,370	\$476,796	\$439,263	\$15,496	.....	.....	.....	.....	.....	\$21,512	\$6,574
Royalties and rents.....	\$331,635	\$330,435	\$279,464	\$28,808	\$47,777	\$26,270	\$2,434	\$7,831	\$20,592	\$17,250	\$1,200
Taxes.....	\$1,245,680	\$1,243,918	\$1,130,332	\$27,653	\$50,881	\$8,657	\$5,911	\$2,523	\$4,727	\$13,234	\$1,762
Contract work.....	\$345,333	\$340,851	\$222,260	\$12,446	.....	\$65,270	.....	.....	\$36,470	\$4,405	\$4,432
Expenditures for development (included in the above items).....	\$1,143,408	\$919,206	\$647,496	\$16,021	\$31,136	\$120,997	.....	\$2,000	\$40,540	\$61,016	\$224,202
Value of products.....	\$29,363,449	\$29,363,449	\$23,763,440	\$1,610,544	\$1,186,127	\$864,074	\$259,599	\$203,068	\$183,864	\$1,291,893	.....
Persons engaged in industry.....	15,674	15,537	11,940	848	603	503	176	224	144	940	137
Proprietors and firm members (total).....	71	71	42	21	.....	.....	5	.....	1	2	.....
Number performing manual labor.....	19	19	11	8	.....	.....	.....	.....	.....	.....	.....
Salaried officers.....	137	135	98	8	1	2	4	6	6	10	2
Superintendents and managers.....	294	290	198	20	23	11	7	4	10	17	4
Technical employees.....	66	62	54	.....	3	3	.....	.....	2	.....	.....
Clerks, etc.....	440	432	333	22	13	28	3	4	6	23	8
Wage earners (average number).....	14,666	14,547	11,215	777	623	549	157	210	119	897	119
Wage earners by occupation (Dec. 15):											
Above ground (total).....	5,301	5,181	2,246	548	485	298	177	155	290	679	120
Below ground (total).....	10,496	10,474	9,512	.....	335	264	.....	71	10	282	22
Foremen, shift bosses, etc.—											
Above ground.....	248	242	104	42	41	11	7	3	13	21	6
Below ground.....	308	307	269	.....	10	12	.....	3	8	11	1
Engineers, hoistmen, electricians, mechanics, etc.—											
Above ground.....	1,108	1,095	661	119	60	73	17	19	45	71	43
Below ground.....	1,078	1,078	1,044	.....	26	.....	.....	.....	.....	8	.....
Miners, quarrymen, and drillmen, including their helpers—											
Above ground.....	830	820	157	279	153	11	61	20	29	110	10
Below ground.....	5,288	5,280	4,838	.....	140	106	.....	14	8	174	8
Timbermen, trackmen, and men engaged in hauling, tramping, etc.—											
Above ground.....	488	473	280	62	17	11	24	49	20	10	15
Below ground.....	2,423	2,410	2,278	.....	58	36	.....	21	.....	26	4
Muckers, loaders, laborers, and others not classified—											
Above ground.....	2,036	1,990	1,012	332	100	130	68	64	121	103	46
Below ground.....	1,399	1,390	1,083	.....	101	110	.....	33	.....	63	9
Wage earners employed in mills and beneficiating plants—											
Above ground.....	591	591	32	14	57	62	.....	.....	62	364	.....
Number of females included in wage earners reported above—											
Above ground.....	31	31	13	3	.....	.....	.....	.....	.....	15	.....
Number of wage earners under 16 years of age included in those reported above—											
Above ground.....	3	3	.....	1	.....	.....	.....	.....	2	.....	.....
Mineral land operated..... acres.....	493,104	494,909	397,976	3,275	33,752	887	315	636	47,910	10,158	3,195
Land controlled, total..... acres.....	520,597	515,609	407,324	5,051	40,643	3,987	320	636	47,910	10,738	3,893
Mineral land owned.....	368,077	365,932	312,376	2,793	30,666	609	300	556	11,095	7,397	2,095
Mineral land leased.....	131,666	129,906	85,339	482	2,798	378	15	80	36,815	2,761	1,100
Timber and other lands owned and leased.....	21,854	20,661	8,309	1,776	6,891	3,100	5	.....	.....	580	703
Power used: Aggregate horsepower.....	58,315	57,880	41,630	5,723	2,304	1,438	650	445	670	5,029	435
Prime movers (horsepower, total).....	24,076	23,041	10,016	4,706	2,304	1,438	600	445	670	3,462	435
Steam engines—											
Number.....	269	266	91	55	34	29	9	14	12	22	3
Horsepower.....	20,722	20,372	9,228	3,395	2,304	1,318	600	445	642	2,440	350
Steam turbines—											
Number.....	5	5	1	3	.....	1	.....	.....	.....	.....	.....
Horsepower.....	1,530	1,530	600	810	.....	120	.....	.....	.....	.....	.....
Internal-combustion engines—											
Number.....	38	37	19	13	.....	.....	.....	.....	3	2	1
Horsepower.....	347	337	188	109	.....	.....	.....	.....	28	12	10
Water wheels and turbines—											
Number.....	6	5	.....	1	.....	.....	.....	.....	.....	4	1
Horsepower.....	1,477	1,402	392	392	.....	.....	.....	.....	.....	1,010	75
Purchased power (horsepower, total).....	34,239	34,239	31,614	1,017	.....	.....	50	.....	.....	1,558	.....
Electric motors operated by purchased current—											
Number.....	1,012	1,012	944	18	.....	.....	1	.....	.....	49	.....
Horsepower.....	34,239	34,239	31,614	1,017	.....	.....	50	.....	.....	1,558	.....
Electric motors run by current generated by enterprise using:											
Number.....	325	325	256	17	1	13	.....	3	.....	35	.....
Horsepower.....	12,205	12,205	9,775	827	10	390	.....	310	.....	893	.....
Fuel used:											
Coal, anthracite..... tons, 2,240 pounds..	64	64	61	61	.....	.....	.....	.....	.....	3	.....
Coal, bituminous..... tons, 2,000 pounds..	210,721	209,851	113,881	27,094	12,930	28,651	2,246	3,637	1,642	18,870	870
Coke..... tons, 2,000 pounds..	170	170	.....	.....	.....	.....	.....	.....	.....	170	.....
Wood..... cords.....	1,388	1,388	.....	518	170	200	.....	.....	325	173	.....
Fuel oils..... barrels.....	864	706	90	590	.....	.....	.....	.....	.....	28	158
Gasoline and other volatile oils..... barrels.....	549	499	272	212	.....	.....	.....	.....	11	4	50

¹ Includes 1 coal mining enterprise on the Virginia-Kentucky state line reported as a Virginia operation.
² Includes enterprises as follows: Abrasive materials, 1; barytes, 1; clay, 1; gypsum, 2; mica, 2; millstones, 2; mineral pigments, 1; rare metals (titanium), 1; sandstone, 2; talc and soapstone, 4.
³ Includes enterprises as follows: Coal, bituminous, 1; limestone, 1; pyrite, 1; zinc, 1.

WASHINGTON.

Washington, which ranks nineteenth among the states in size (land area 66,836 square miles) and thirtieth in population (1,356,621 in 1920), ranked twenty-seventh in value of mineral products for 1919. The state also ranked twenty-seventh on the basis of total number of persons engaged in the mining industries and the average number of wage earners employed.

The total value of products of mines and quarries in Washington in 1919 was \$13,329,129 which amount includes, in addition to the receipts by operators for the products indicated by the names of the industries specified, \$70,769, the value of by-products, of power sold, and work or miscellaneous services for other enterprises. The total value of products for 1919 is larger by 26.5 per cent than the corresponding amount reported at the census of 1909. This increase and the increases in wages and cost of supplies and materials and fuel and power, as shown in Table 1, are largely due to general price increases and, therefore, can not properly be used to measure the growth of mining during the census period 1909 to 1919. The average number of wage earners employed, which is a better basis for comparison, was 26.9 per cent less in 1919 than in 1909.

The mining industries reported for 1919, classified by principal products and listed in the order of value of products, were bituminous coal, magnesite, gold and silver from lode mines, basalt, copper, lead and zinc, granite, sandstone, clay, abrasive materials, iron ore, talc and soapstone, asbestos, and gold from placer mines. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mineral industry in Washington in 1919 was bituminous coal mining which reported 35 out of a total of 83 productive enterprises in the state, employed 87.4 per cent of the total number of wage earners, and reported products valued at \$10,737,656, which represents 80.6 per cent of the total value of products of all mining industries in the state. Production was reported principally from Kittitas, King, and Pierce but also from Lewis, Skagit, Thurston, and Whatcom Counties.

Mining and calcining of magnesite was second in importance among the mineral industries in the state, and in this industry, which is confined to Stevens County, Washington leads all other states.

The metalliferous lode mining industry, producing gold, silver, copper, lead and zinc ores, was third in importance in Washington in 1919, with an output valued by the producers at \$670,869, which came

chiefly from Stevens and Ferry but also from Okanogan and Snohomish Counties.

Operations on nonproducing mining properties were reported by 15 enterprises in Washington in 1919; these included 11 metalliferous lode mines, 2 coal mines, and 2 petroleum and natural-gas ventures. These enterprises, with a combined capital of \$2,946,772, employed 105 wage earners and expended \$381,662 for development during 1919. These figures represent 2 per cent of the aggregate number of wage earners and 3.2 per cent of the aggregate expenditures reported for all mining operations in the state.

The form or character of organizations conducting mining enterprises in Washington in 1919 is shown in Table 3, which brings out the preponderance of corporations. They operated 78.3 per cent of all mining enterprises, employed 98 per cent of the total number of wage earners, and reported 98.1 per cent of the total value of products. In each of the leading industries also the corporation was the most common form of operating organization and conducted the more important enterprises.

The relatively large number of small enterprises, as measured by the average number of wage earners, is shown in Table 4. Of the 83 mining enterprises in Washington, 70 were in classes having no wage earners or fewer than 101, and such enterprises employed 28.6 per cent of the total number of wage earners. On the other hand, only 13 of the total number of enterprises had more than 100 wage earners each, but these enterprises employed 71.5 per cent of the total number of wage earners. The larger enterprises were in the coal and magnesite mining industries.

Table 5 shows that in a majority of enterprises and for 95.1 per cent of all the wage earners the hours of labor were 44 to 53 per week, the 8-hour day and the 6-day week prevailing. These hours of labor prevailed in each of the mining industries, except metalliferous lode mining and the mining of magnesite, in which the 8-hour day and 7-day week was the rule.

The statistics for wage earners given in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the mining industries during the census year. The unusually low minimum in the coal industry in November, instead of in the summer months as has been usual, was the result of the great November strike and affects the figures for all industries combined.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

MINES AND QUARRIES—WASHINGTON.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	83	93	.....	Principal expenses: Salaries..... Wages..... Contract work..... Supplies and materials..... Fuel and power..... Royalties and rents..... Taxes..... Value of products.....			
Number of mines and quarries.....	93	170	-45.3		\$662,546	\$344,666	92.2
Persons engaged.....	5,397	7,214	-25.2		7,465,652	5,891,007	26.7
Proprietors and firm members, total.....	33	48	.....		86,624	14,462	499.0
Number performing manual labor in or about the mines and quarries.....	16	16	.....		1,728,585	843,025	105.0
Salaried employees.....	314	262	19.8		947,330	245,862	285.3
Wage earners (average number).....	5,050	6,904	-26.9		177,429	141,281	25.6
Power used (horsepower).....	38,198	20,742	84.2		283,318	93,593	202.7
Capital.....	\$22,914,934	\$13,074,691	75.3		13,329,129	10,537,556	26.5

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	83	5,050	100.0	\$13,329,129	100.0	Basalt.....	8	99	2.0	\$240,742	1.8
Coal, bituminous.....	35	4,413	87.4	10,737,656	80.6	Granite.....	5	42	0.8	74,953	0.6
Gold, silver, copper, lead and zinc, lode mines.....	19	221	4.4	670,869	5.0	Abrasive materials.....	4	13	0.3	16,769	0.1
						All other industries ¹	12	202	5.2	1,588,135	11.9

¹ Includes enterprises in industries as follows: Asbestos, 1; clay, 4; gold, placer mines, 1; iron ore, 1; magnesite, 3; sandstone, 1; talc and soapstone, 1.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprises.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	83	5,050	\$13,329,129	\$160,592	100.0	100.0	100.0
Corporation.....	65	4,950	13,073,858	201,136	78.3	98.0	98.1
Individual.....	7	11	37,783	5,398	8.4	0.2	0.3
Firm.....	11	89	217,488	19,772	13.3	1.8	1.6
COAL, BITUMINOUS.....	35	4,413	10,737,656	306,790	100.0	100.0	100.0
Corporation.....	31	4,301	10,645,391	343,400	88.6	98.8	99.1
Firm.....	4	52	92,265	23,066	11.4	1.2	0.9
GOLD, SILVER, COPPER, LEAD AND ZINC, LODE MINES.....	19	221	670,869	35,809	100.0	100.0	100.0
Corporation.....	16	216	647,728	40,483	84.2	97.7	96.6
Firm.....	3	5	23,141	7,714	15.8	2.3	3.4
BASALT AND GRANITE.....	13	141	315,700	24,285	100.0	100.0	100.0
Corporation.....	7	106	209,175	29,882	53.8	75.2	68.3
Individual.....	3	8	33,181	11,960	23.1	5.7	10.5
Firm.....	3	27	73,344	24,448	23.1	19.1	23.2
ABRASIVE MATERIALS.....	4	13	16,769	4,192	100.0	100.0	100.0
Corporation.....	4	13	16,769	4,192	100.0	100.0	100.0

¹ Includes 1 individual.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES	83	100.0	5,050	100.0	GOLD, SILVER, COPPER, LEAD AND ZINC, LOBE MINES	19	100.0	221	100.0
No wage earners.....	5	6.0	.....	.....	No wage earners.....	2	10.5	.....	.....
1 to 5.....	22	26.5	60	1.2	1 to 5.....	9	47.4	18	8.1
6 to 20.....	20	24.1	225	4.5	6 to 20.....	5	26.3	75	33.0
21 to 50.....	13	15.7	378	7.5	21 to 50.....	2	10.5	46	20.8
51 to 100.....	10	12.0	777	15.4	51 to 100.....	1	5.3	82	37.1
101 to 500.....	12	14.5	2,594	51.4	BASALT AND GRANITE	13	100.0	141	100.0
Over 1,000.....	1	1.2	1,016	20.1	No wage earners.....	1	7.7	.....	.....
COAL, BITUMINOUS	85	100.0	4,413	100.0	1 to 5.....	3	23.1	10	7.1
1 to 5.....	2	5.7	7	0.2	6 to 20.....	8	61.5	74	52.5
6 to 20.....	3	8.6	38	0.9	51 to 100.....	1	7.7	57	40.4
21 to 50.....	10	28.6	301	6.8					
51 to 100.....	8	22.9	638	14.5					
101 to 500.....	11	31.4	2,413	54.7					
Over 1,000.....	1	2.9	1,016	23.0					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
	Enterprises.	Wage earners.	35 and under.		44 to 53.		54 to 62.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	178	5,050	1	2	63	4,803	14	245
Coal, bituminous.....	35	4,413	1	2	34	4,411	.....	.....
Gold, silver, copper, lead and zinc, lode mines.....	17	221	.....	.....	6	14	11	207
Basalt and granite.....	12	141	.....	.....	12	141	.....	.....
Abrasive materials.....	4	13	.....	.....	4	13	.....	.....
All other industries.....	10	262	.....	.....	7	224	3	38

¹ Exclusive of 5 enterprises employing no wage earners in industries as follows: Basalt, 1; clay, 1; gold, silver, copper, lead and zinc, lode mines, 2; gold, placer mines, 1.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	5,155	6,034	5,802	5,715	5,359	5,182	5,056	5,318	5,595	5,813	5,717	<i>1,998</i>	4,271	33.1
Producing enterprises.....	5,050	5,956	5,737	5,672	5,321	5,104	4,948	5,195	5,455	5,659	5,507	<i>1,844</i>	4,142	31.0
Coal, bituminous.....	4,413	5,259	5,248	5,195	4,885	4,698	4,531	4,575	4,652	4,814	4,714	<i>1,018</i>	3,367	19.4
Gold, silver, copper, lead and zinc, lode mines.....	221	263	184	174	194	209	210	205	250	280	255	235	193	62.1
Basalt.....	99	55	58	38	36	50	98	134	167	108	168	166	135	19.6
Granite.....	42	39	49	40	48	43	37	41	51	42	41	39	34	66.7
Abrasive materials.....	13	7	3	2	7	16	20	27	28	24	14	7	7	3.6
All other industries.....	262	339	220	223	151	88	52	213	307	391	375	379	406	12.8
Nonproducing industries.....	105	78	65	48	38	78	108	123	140	154	150	154	129	24.7
Gold, silver, copper, lead or zinc, lode mines.....	50	30	30	24	25	31	53	57	63	71	76	70	70	31.6
All other industries.....	55	48	35	19	13	47	55	66	77	83	74	84	59	15.5

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TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.							NONPRODUCING ENTERPRISES.		
		Total.	Coal, bituminous.	Gold, silver, copper, lead and zinc, lode mines.	Basalt.	Granite.	Abrasive materials.	All other. ¹	Total.	Gold, silver, copper, lead or zinc, lode mines.	All other. ²
Number of enterprises.....	98	83	35	19	8	5	4	12	15	11	4
Number of mines and quarries.....	106	93	43	19	10	5	4	12	13	11	2
Capital.....	\$25,861,706	\$22,914,934	\$15,987,334	\$3,670,636	\$183,113	\$208,492	\$319,377	\$2,545,082	\$2,946,772	\$2,659,997	\$286,775
Principal expenses:											
Salaries and wages—											
Officers.....	\$129,168	\$117,043	\$30,459	\$14,304	\$1,500	\$1,800	\$1,500	\$17,480	\$12,125	\$6,125	\$6,000
Superintendents and managers.....	\$299,156	\$280,215	\$185,261	\$35,903	\$8,425	\$3,142	\$4,750	\$42,734	\$18,941	\$13,261	\$5,680
Technical employees.....	\$72,162	\$66,475	\$47,818	\$7,945	\$4,614	.....	.....	\$6,098	\$5,687	\$3,332	\$2,355
Clerks, etc.....	\$200,646	\$198,813	\$171,476	\$6,951	\$4,200	.....	\$1,640	\$14,195	\$1,833	.....	\$1,833
Wage earners.....	\$7,629,447	\$7,465,652	\$6,516,988	\$381,090	\$102,382	\$50,303	\$15,558	\$400,331	\$163,795	\$77,325	\$36,470
Supplies and materials.....	\$1,890,278	\$1,728,585	\$1,376,254	\$163,132	\$42,468	\$6,110	\$8,980	\$131,641	\$161,693	\$63,588	\$38,105
Fuel.....	\$795,540	\$785,730	\$547,724	\$22,675	\$18,519	\$6,668	\$1,082	\$192,062	\$6,810	\$3,054	\$3,766
Power.....	\$162,100	\$158,600	\$94,733	\$30,234	\$940	\$1,788	.....	\$30,910	\$3,600	\$3,500	.....
Royalties and rents.....	\$186,844	\$177,429	\$166,279	\$3,457	\$2,244	\$100	\$374	\$4,585	\$9,415	\$725	\$8,690
Taxes.....	\$289,419	\$283,313	\$247,041	\$21,128	\$1,608	\$847	.....	\$12,110	\$6,101	\$1,911	\$4,190
Contract work.....	\$94,373	\$86,024	\$60,612	\$9,783	.....	.....	.....	\$16,229	\$7,749	\$470	\$7,279
Expenditures for development (included in the above items).....	\$1,152,728	\$771,000	\$651,734	\$86,399	.....	\$3,000	\$4,500	\$25,433	\$381,062	\$170,185	\$211,477
Value of products.....	\$13,329,129	\$13,329,129	\$10,737,656	\$370,369	\$240,742	\$74,058	\$16,769	\$1,688,135	.....	.....	.....
Persons engaged in industry.....	5,530	5,397	4,654	257	115	53	19	299	133	73	60
Proprietors and firm members (total).....	43	33	10	5	5	5	.....	8	10	10	.....
Number performing manual labor.....	17	16	7	4	2	1	.....	2	1	1	.....
Salaries officers.....	40	37	24	6	1	.....	.....	4	3	2	.....
Superintendents and managers.....	103	92	58	12	4	4	.....	11	11	9	2
Technical employees.....	40	37	20	7	1	.....	.....	3	3	2	1
Clerks, etc.....	149	143	123	6	5	1	.....	11	1	.....	.....
Wage earners (average number).....	5,155	5,050	4,413	221	99	42	13	262	106	50	55
Wage earners by occupation (Dec. 15):											
Above ground (total).....	2,076	1,982	1,264	114	153	61	21	369	94	40	48
Below ground (total).....	4,024	3,971	3,705	190	.....	.....	.....	70	53	42	11
Foremen, shift bosses, etc.—											
Above ground.....	98	90	64	8	6	5	1	12	2	1	1
Below ground.....	139	135	123	12	.....	.....	.....	4	4	.....	.....
Enginemen, hoistmen, electricians, mechanics, etc.—											
Above ground.....	521	492	416	31	7	6	1	31	29	7	22
Below ground.....	196	195	183	12	.....	.....	.....	1	1	.....	.....
Miners, quarrymen, and drillmen, including their helpers—											
Above ground.....	262	257	45	5	100	23	8	76	5	5	.....
Below ground.....	2,379	2,344	2,262	60	.....	.....	.....	16	35	20	5
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—											
Above ground.....	156	148	126	12	.....	.....	.....	10	8	8	.....
Below ground.....	1,000	998	922	68	.....	.....	.....	8	2	.....	2
Muckers, loaders, laborers, and others not classified—											
Above ground.....	688	638	449	18	40	16	2	113	50	25	25
Below ground.....	310	299	215	38	.....	.....	.....	46	11	7	4
Wage earners employed in mills and beneficiating plants—											
Above ground.....	351	351	164	40	.....	11	9	127	.....	.....	.....
Number of females included in wage earners reported above—											
Above ground.....	7	6	4	2	.....	.....	.....	.....	1	1	.....
Number of wage earners under 16 years of age included in those reported above—											
Above ground.....	3	3	3	.....	.....	.....	.....	.....	.....	.....	.....
Mineral and oil land operated..... acres..	79,426	73,061	65,040	3,007	212	157	1,784	1,961	6,365	2,381	3,984
Land controlled, total..... acres..	96,266	89,151	80,958	3,667	212	189	1,784	2,441	7,114	3,190	3,984
Mineral and oil land owned.....	50,509	48,404	44,368	2,257	188	157	1,123	1,311	2,105	1,911	1,914
Mineral and oil land leased.....	29,157	24,897	21,812	750	24	.....	.....	650	4,260	470	3,790
Timber and other lands owned and leased.....	16,599	15,850	14,778	560	.....	.....	.....	480	749	749	.....
Power used: Aggregate horsepower.....	33,933	33,198	32,190	2,122	1,020	248	295	2,325	735	545	190
Prime movers (horsepower, total).....	24,892	24,332	20,857	1,269	980	176	205	755	560	370	190
Steam engines—											
Number.....	131	126	98	5	10	4	2	7	5	4	1
Horsepower.....	20,942	20,662	19,006	195	845	136	225	255	280	230	50
Steam turbines—											
Number.....	7	7	7	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower.....	1,781	1,781	1,781	.....	.....	.....	.....	.....	.....	.....	.....
Internal-combustion engines—											
Number.....	51	41	5	20	3	2	4	7	10	3	7
Horsepower.....	1,789	1,539	70	724	135	40	70	500	250	110	140
Water wheels and turbines—											
Number.....	5	4	.....	4	.....	.....	.....	.....	1	1	.....
Horsepower.....	380	350	.....	350	.....	.....	.....	.....	30	30	.....
Purchased power (horsepower, total).....	14,041	13,866	11,333	853	40	70	.....	1,570	175	175	.....
Electric motors operated by purchased current—											
Number.....	287	282	196	15	2	6	.....	63	5	5	.....
Horsepower.....	13,841	13,666	11,333	653	40	70	.....	1,570	175	175	.....
Other equipment operated by purchased power—											
Horsepower.....	200	200	.....	200	.....	.....	.....	.....	.....	.....	.....
Electric motors run by current generated by enterprise using:											
Number.....	315	315	315	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower.....	10,619	10,619	10,619	.....	.....	.....	.....	.....	.....	.....	.....
Fuel used:											
Coal, bituminous..... tons, 2,000 pounds..	197,668	197,152	173,052	250	534	673	165	22,478	516	20	496
Wood..... cords..	3,109	2,747	.....	1,337	336	291	3	780	362	362	.....
Fuel oils..... barrels..	47,095	47,095	23	564	3,130	.....	20	43,308	.....	.....	.....
Gasoline and other volatile oils..... barrels..	2,420	2,110	108	1,652	104	100	15	136	310	150	160
Natural gas..... 1,000 cubic feet..	5,000	.....	.....	.....	.....	.....	.....	.....	5,000	.....	5,000

¹ Includes enterprises as follows: Asbestos, 1; clay, 4; gold, placer mines, 1; iron ore, 1; magnesite, 3; sandstone, 1; talc and soapstone, 1.
² Includes enterprises as follows: Coal, bituminous, 2; petroleum and natural gas, 2.

WEST VIRGINIA.

West Virginia, which ranks fortieth among the states in size (land area 24,022 square miles) and twenty-seventh in population (1,463,701 in 1920), ranked second in the value of mineral products in 1919. The state also ranked second in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The gross value of products of all mines, quarries, and wells in West Virginia in 1919 was \$295,606,620. This amount includes, in addition to the value of specified mineral products, amounts received by operators for other products, for power sold, and for work or miscellaneous services for other enterprises. The gross value of products shows an increase of 287.5 per cent as compared with the gross value of products reported at the census of 1909. Deducting from this gross value \$5,871,497, the value of natural gas sold by some producers to others who used it as material or sold it again, leaves \$289,735,123, the net value of products for 1919, which is 284.3 per cent larger than the corresponding value for 1909.

This increase and the increases in capital, wages, cost of supplies and materials and fuel and power, as shown in Table 1, although in large part due to general price increases during the census interval, nevertheless show growth in mining as do also the increases in number of enterprises, number of individual mines, quarries, and wells operated, and in average number of wage earners employed.

The mining industries in West Virginia in 1919, classified according to principal products, were bituminous coal, petroleum and natural gas, limestone, sandstone, and clay, which are ranked by value of products in the order named, in Table 2.

The leading industry was the mining of bituminous coal in which West Virginia was outclassed only by Pennsylvania. This industry included 926 enterprises, or 54 per cent of the total number in the state, employed 86.4 per cent of the total number of wage earners, and reported products to the value of \$193,108,343, or 65.3 per cent of the total. The state produces bituminous and semibituminous coals in varieties for all uses. The productive territory lies in a central belt extending across the state from northeast to southwest and in a zone along the Ohio River. The producing districts are part of the Northern and Middle Appalachian coal fields and occupy approximately 9,500 square miles in parts of 36 counties.

The industry second in importance was the production of petroleum and natural gas. The statistics here presented for this industry include data on the operation of plants engaged in the extraction of

gasoline from natural gas, whether such plants were connected with well operations or not. Seven hundred and fifty-one enterprises, or 43.8 per cent of the total number in the mineral industries of the state in 1919, were petroleum or natural-gas or natural-gas gasoline enterprises. They reported 12.2 per cent of the total number of wage earners and products valued at \$99,518,304, or 33.7 per cent of the total value of products of the state. The producing pools or local fields cover approximately 10,000 square miles throughout the northwestern half of the state, 30 counties reporting production in 1919.

The total value of products for the coal and petroleum and natural-gas industries combined was 99 per cent of the total value of products of the state. The other industries are therefore relatively small, but both the limestone and sandstone quarrying industries in West Virginia are important, in that they furnish a large share of the country's supply of limestone and sandstone (silica) used in manufacturing industries as well as furnishing stone for construction work.

In addition to the activities of producing mines, three coal and five petroleum and natural-gas enterprises reported operations for development of non-producing properties; these enterprises reported \$133,107 expended for development work, which represented a very small portion of the aggregate expenditures reported for the state.

Table 3 classifies the producing mining enterprises of the state according to form of organization and shows that, for the mining industries as a whole, corporations conducted 68.3 per cent of the total number of enterprises, employed 97.4 per cent of the wage earners, and reported 96.8 per cent of the total value of products. A preponderance of corporations over other forms of organization is shown for each of the industries considered separately.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in West Virginia, 16.2 per cent employed no wage earners, and 68.3 per cent employed fewer than 101 wage earners. On the other hand, 266 enterprises, or 15.6 per cent of the total number, had more than 100 wage earners each and employed 74.7 per cent of the total number of wage earners. Most of these larger enterprises were in the coal-mining industry; the remainder were in the petroleum and natural-gas and limestone industries.

Table 5 shows that in a majority of enterprises employing wage earners and for 76.7 per cent of the total number of wage earners the hours of labor

were 44 to 53 per week. In the coal-mining industry these hours prevailed with an 8-hour day and a 6-day week, but in the petroleum and natural-gas industry and in the quarrying industries longer hours were the rule.

The statistics for wage earners presented in Table

6, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without disclosure of individual operations.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	1,714	798	114.8	Capital.....	\$533,138,835	\$219,466,909	142.9
Number of mines and quarries.....	1,325	718	84.5	Principal expenses:			
Number of petroleum and natural-gas wells.....	27,363	15,148	80.7	Salaries.....	14,954,249	3,828,884	290.6
Number of natural-gas gasoline plants.....	230			Wages.....	119,577,949	35,980,736	232.3
Persons engaged.....	110,327	77,814	41.8	Contract work.....	3,889,691	4,465,926	-12.9
Proprietors and firm members, total.....	1,667	909	83.4	Supplies and materials ²	46,611,574	12,541,375	271.7
Number performing manual labor in or about the mines, quarries, and wells.....	124	81		Fuel and power.....	6,908,796	1,212,825	469.6
Salaried employees.....	7,848	3,495	124.5	Royalties and rents.....	14,845,553	7,796,172	86.4
Wage earners (average number).....	100,812	73,410	37.3	Taxes.....	11,078,927	965,443	1,047.5
Power used (horsepower).....	704,279	416,282	69.2	Value of products.....	295,606,620	76,287,889	287.5

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100. ² Includes cost of natural gas purchased as material and for resale.

TABLE 2.—MINING INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	1,714	100,812	100.0	\$295,606,620	100.0	Limestone.....	17	1,003	1.0	\$1,927,490	0.7
Coal, bituminous.....	920	87,095	86.4	193,108,343	65.3	Sandstone.....	15	343	0.3	885,588	0.3
Petroleum and natural gas.....	751	12,302	12.2	99,518,304	33.7	Clay.....	5	69	0.1	166,895	0.1

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	1,714	100,812	\$295,606,620	\$172,466	100.0	100.0	100.0
Corporation.....	1,170	98,207	285,062,517	244,468	68.3	97.4	96.8
Individual.....	166	704	2,920,406	17,593	9.7	0.7	1.0
Firm.....	351	1,847	6,155,479	17,537	20.5	1.8	2.1
Other.....	27	54	468,218	17,341	1.6	0.1	0.2
COAL, BITUMINOUS.....	920	87,095	193,108,343	208,540	100.0	100.0	100.0
Corporation.....	804	85,256	189,232,443	235,364	86.8	97.0	98.0
Individual.....	53	476	1,095,619	20,672	5.7	0.5	0.6
Firm ¹	69	1,364	2,780,281	40,294	7.5	1.6	1.4
PETROLEUM AND NATURAL GAS.....	751	12,302	99,518,304	182,514	100.0	100.0	100.0
Corporation.....	339	11,581	93,942,563	277,117	45.1	94.1	94.4
Individual.....	108	197	1,762,791	16,322	14.4	1.6	1.8
Firm.....	278	473	3,348,193	12,044	37.0	3.8	3.4
Other.....	26	51	464,757	17,875	3.5	0.4	0.5
LIMESTONE.....	17	1,003	1,927,490	113,382	100.0	100.0	100.0
Corporation.....	13	991	1,897,479	145,960	76.5	98.8	98.4
Firm ²	4	12	30,011	7,503	23.5	1.2	1.6
SANDSTONE.....	15	343	885,588	59,039	100.0	100.0	100.0
Corporation.....	10	331	870,360	87,036	66.7	96.5	98.3
Firm ²	5	12	15,228	3,046	33.3	3.5	1.7

¹ Includes 1 other form of organization.

² Includes 2 individuals.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR ALL INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	1,714	100.0	100,812	100.0	LIMESTONE.....	17	100.0	1,003	100.0
No wage earners.....	277	16.2			No wage earners.....	1	5.9		
1 to 5.....	449	26.2	957	0.9	1 to 5.....	3	17.6	8	0.8
6 to 20.....	282	16.4	3,297	3.3	6 to 20.....	2	11.8	15	1.5
21 to 50.....	254	14.8	8,239	8.2	21 to 50.....	4	23.5	118	11.8
51 to 100.....	186	10.9	12,965	12.9	51 to 100.....	3	17.6	223	22.2
101 to 500.....	243	14.2	49,291	48.9	101 to 500.....	4	23.5	639	63.7
501 to 1,000.....	15	0.9	10,215	10.1					
Over 1,000.....	8	0.5	15,848	15.7	SANDSTONE.....	15	100.0	343	100.0
COAL, BITUMINOUS.....	926	100.0	87,095	100.0	1 to 5.....	6	40.0	17	5.0
1 to 5.....	85	9.2	268	0.3	6 to 20.....	5	33.3	60	17.5
6 to 20.....	192	20.7	2,373	2.7	21 to 50.....	1	6.7	22	6.4
21 to 50.....	231	24.9	7,601	8.7	51 to 100.....	3	20.0	244	71.1
51 to 100.....	170	18.4	11,770	13.5					
101 to 500.....	230	24.8	46,884	53.8	CLAY.....	5	100.0	60	100.0
501 to 1,000.....	13	1.4	8,915	10.2	6 to 20.....	3	60.0	22	31.9
Over 1,000.....	5	0.5	9,289	10.7	21 to 50.....	2	40.0	47	68.1
PETROLEUM AND NATURAL GAS.....	751	100.0	12,302	100.0					
No wage earners.....	276	36.8							
1 to 5.....	355	47.3	689	5.4					
6 to 20.....	80	10.7	827	6.7					
21 to 50.....	16	2.1	451	3.7					
51 to 100.....	10	1.3	728	5.9					
101 to 500.....	9	1.2	1,768	14.4					
501 to 1,000.....	2	0.3	1,300	10.6					
Over 1,000.....	3	0.4	6,559	53.3					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR ALL INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—											
	Enter-prises.	Wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.		63 to 71.		72 to 84.	
			Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	1,437	100,812	87	2,102	59	3,187	947	77,292	287	10,666	40	1,481	17	184
Coal, bituminous.....	926	87,095	30	2,028	46	3,170	801	74,125	47	7,702	2	70		
Petroleum and natural gas.....	475	12,302	57	74	12	16	140	3,081	211	7,636	38	1,861	17	134
Limestone.....	16	1,003							16	1,003				
Sandstone.....	15	343			1	1	2	25	12	317				
Clay.....	5	69					4	61	1	8				

¹ Exclusive of 277 enterprises employing no wage earners in the following industries: Limestone, 1; petroleum and natural gas, 276.

TABLE 6.—WAGE EARNERS, BY MONTHS, ALL INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	100,830	100,187	93,274	92,324	93,737	97,318	99,483	104,794	106,682	107,828	107,803	97,291	108,759	85.3
Producing enterprises.....	100,812	100,187	93,274	92,324	93,737	97,318	99,484	104,774	106,637	107,801	107,778	97,245	108,720	85.4
Coal, bituminous.....	87,095	87,044	80,378	79,740	80,329	83,650	85,670	90,496	92,194	93,614	93,750	83,379	94,887	84.0
Petroleum and natural gas.....	12,302	11,833	11,625	11,693	12,007	12,199	12,378	12,857	12,886	12,667	12,637	12,425	12,417	90.2
Limestone.....	1,003	907	912	1,014	1,039	1,054	994	1,022	1,095	1,063	960	992	984	82.8
Sandstone.....	343	325	291	304	294	343	351	330	395	389	357	379	358	73.7
Clay.....	69	78	68	72	68	67	61	69	67	68	65	70	74	78.2
Nonproducing enterprises.....	18					5	29	20	25	27	25	46	39	10.9
Coal, bituminous.....	13						24	19	18	20	24	29	28	41.4
Petroleum and natural gas.....	5					5	5	1	13	7	1	17	11	5.9

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TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.					NONPRODUCING ENTERPRISES.			
		Total.	Coal, bituminous.	Petroleum and natural gas.	Limestone.	Sandstone.	Clay.	Total.	Coal, bituminous.	Petroleum and natural gas.
Number of enterprises.....	1,722	1,714	926	751	17	15	5	8	3	5
Number of mines and quarries.....	1,328	1,325	1,287		17	16	5	8	3	
Number of petroleum and natural-gas wells.....	27,363	27,363		27,363						
Number of natural-gas gasoline plants ¹	230	230		230						
Capital.....	\$533,604,008	\$533,138,835	\$344,014,848	\$186,275,466	\$1,275,947	\$1,226,569	\$346,005	\$525,173	\$303,410	\$221,763
Principal expenses:										
Salaries and wages—										
Officers.....	\$4,398,270	\$4,393,170	\$3,546,415	\$798,908	\$20,159	\$27,822	\$4,866	\$5,100	\$5,100	
Superintendents and managers.....	\$5,298,219	\$5,293,819	\$4,479,144	\$736,647	\$41,877	\$20,011	\$6,640	\$1,900	\$3,900	\$1,000
Technical employees.....	\$1,154,808	\$1,153,558	\$1,058,405	\$94,408	\$750			\$1,250	\$1,250	
Clerks, etc.....	\$4,115,407	\$4,114,202	\$3,183,598	\$889,067	\$30,243	\$8,987	\$2,307	\$1,205	\$240	\$965
Wage earners.....	\$119,596,964	\$119,577,949	\$105,761,150	\$12,416,434	\$979,624	\$338,156	\$32,585	\$19,015	\$14,251	\$4,784
Supplies and materials.....	\$10,804,621	\$10,740,077	\$25,983,284	\$14,227,852	\$419,472	\$94,192	\$15,277	\$64,544	\$10,277	\$54,267
Cost of natural gas purchased as material and for resale.....	\$5,871,497	\$5,871,497		\$5,871,497						
Fuel.....	\$3,921,553	\$3,921,485	\$2,725,087	\$1,083,710	\$69,933	\$39,293	\$3,462	\$68		\$68
Power.....	\$2,987,311	\$2,987,311	\$2,853,341	\$80,400	\$58,213	\$45,357				
Royalties and rents.....	\$14,850,543	\$14,845,553	\$5,025,361	\$8,902,607	\$11,394	\$4,854	\$1,347	\$4,990	\$3,500	\$1,490
Taxes.....	\$11,081,607	\$11,078,927	\$6,644,226	\$4,371,116	\$51,312	\$8,985	\$3,288	\$2,680	\$1,648	\$1,032
Contract work.....	\$3,944,560	\$3,889,991	\$405,581	\$3,484,110				\$54,869		\$54,869
Expenditures for development (included in the above items).....	\$17,649,405	\$17,516,298	\$4,235,208	\$13,270,683	\$2,530	\$7,877		\$133,107	\$35,018	\$98,089
Value of products.....	\$295,606,620	\$295,606,620	\$193,108,343	\$99,518,304	\$1,027,400	\$885,588	\$166,895			
Persons engaged in industry.....	110,364	110,327	93,767	15,032	1,063	385	80	37	20	17
Proprietors and firm members (total).....	1,676	1,607	278	1,376	8	2	1	9		9
Number performing manual labor.....	124	124	63	57	2	2				
Salaried officers.....	1,855	1,363	1,136	211	6	8	2	2	2	
Superintendents and managers.....	2,177	2,173	1,797	335	21	16	4	4	1	1
Technical employees.....	737	736	688	47	1		1	1	3	1
Clerks, etc.....	3,579	3,576	2,778	761	24	9	4	3	1	2
Wage earners (average number).....	100,830	100,812	87,095	12,302	1,003	343	69	18	13	5
Wage earners by occupation (Dec. 15):										
Above ground (total).....	34,344	34,303	20,400	12,430	1,037	427	9	41	26	15
Below ground (total).....	75,582	75,678	75,613				65	4	4	
Foremen, shift bosses, etc.—										
Above ground.....	890	889	835		38	16		1	1	
Below ground.....	2,114	2,114	2,110				4			
Engineers, hoistmen, electricians, mechanics, etc.—										
Above ground.....	13,410	13,395	5,089	8,201	72	31	2	15	14	1
Below ground.....	4,971	4,971	4,967				4			
Miners, quarrymen, and drillmen, including their helpers—										
Above ground.....	2,013	2,013	1,419		448	145	1			
Below ground.....	37,966	37,962	37,925				37	4	4	
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—										
Above ground.....	3,713	3,713	3,646		35	30		2		
Below ground.....	16,853	16,853	16,843				10			
Muckers, loaders, laborers, and others not classified—										
Above ground.....	14,027	14,002	9,192	4,229	444	137		25	11	14
Below ground.....	13,678	13,678	13,668					10		
Wage earners employed in mills and beneficiating plants—										
Above ground.....	291	291	210			68		4		
Mineral and oil land operated..... acres.....	4,593,732	4,578,747	1,834,207	2,732,470	2,555	8,878	607	14,985	3,418	11,567
Land controlled, total..... acres.....	4,702,419	4,687,434	1,940,557	2,732,470	4,528	8,978	901	14,985	3,418	11,567
Mineral and oil land owned.....	1,092,408	1,090,320	1,022,574	65,677	869	738	402	2,088	2,088	
Mineral and oil land leased.....	3,527,781	3,514,884	838,000	2,666,793	1,716	8,140	145	12,897	1,330	11,567
Timber and other lands owned and leased.....	82,230	82,230	79,893		1,943	100	294			
Power used: Aggregate horsepower.....	704,326	704,279	355,479	338,194	6,373	3,486	747	47		47
Prime movers (horsepower, total).....	485,946	485,899	144,240	336,810	2,833	1,200	747	47		47
Steam engines—										
Number.....	4,280	4,280	778	3,416	56	27	3			
Horsepower.....	216,162	216,152	123,212	88,162	2,821	1,220	737			
Steam turbines—										
Number.....	40	40	40							
Horsepower.....	18,969	18,969	18,969							
Internal-combustion engines—										
Number.....	10,525	10,523	136	10,383	1	2	1	2		2
Horsepower.....	250,825	250,778	2,059	248,657	12	40	10	47		47
Purchased power (horsepower, total).....	218,380	218,330	211,239	1,375	3,540	2,226				
Electric motors operated by purchased current—										
Number.....	6,185	6,185	6,008	61	35	81				
Horsepower.....	218,323	218,323	211,182	1,375	3,540	2,226				
Other equipment operated by purchased power—										
Horsepower.....	57	57	57							
Electric motors run by current generated by enterprise using:										
Number.....	2,865	2,865	2,500	355	4		6			
Horsepower.....	95,084	95,084	87,256	7,615	120		93			
Fuel used:										
Coal, bituminous..... tons, 2,000 pounds.....	1,157,991	1,157,991	1,124,614	7,500	13,997	10,383	1,497			
Wood..... cords.....	50	50			50					
Fuel oils..... barrels.....	524	524	339	185						
Gasoline and other volatile oils..... barrels.....	2,541	2,541	2,424	108	9					
Natural gas..... 1,000 cubic feet.....	12,150,899	12,149,549	287,042	11,860,929		316	1,262	1,350		1,350

¹ Exclusive of 1 enterprise, which operated a plant that produced also carbon black, included in the census of manufactures.
² Includes 2 wage earners under 16 years of age.

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Wisconsin, which ranks twenty-fifth among the states in size (land area 55,256 square miles) and thirteenth in population (2,632,067 in 1920), ranked twenty-ninth in value of mineral products in 1919. The state ranked thirty-first in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The gross amount received for products by operators of mines and quarries in Wisconsin in 1919 was \$10,580,833, which was an increase of 41.8 per cent over the corresponding amount reported at the census of 1909. Deducting for 1919 a duplication of \$83,802, the value of lead and zinc ores sold by some operators and again reported as product after treatment by others, and for 1909 a similar duplication of \$156,000, leaves as net value of products, \$10,497,031 for 1919 and \$7,303,404 for 1909, an increase of 43.7 per cent. These values include receipts for mineral and other unspecified by-products, custom milling, power sold, and work or miscellaneous services for other enterprises, which amounted to \$96,326 in 1919.

The increase in value of products and the increases in capital, wages, cost of supplies and materials and fuel and power, shown in Table 1, are largely due to general price increases during the census interval and are, therefore, not a measure of growth in mining. The decreases in number of enterprises, number of individual mines and quarries operated, and in the persons engaged in the mining industries are augmented by the temporarily adverse industrial conditions in 1919.

The mining industries reported for Wisconsin in 1919, classified according to principal products and listed in order of value of products, were iron ore, lead and zinc, granite, limestone, sandstone, basalt, silica, and barytes. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mining industry in Wisconsin in 1919 was the production of iron ore in Iron, Florence, Dodge, and Sauk Counties. The six enterprises in this industry employed 32.3 per cent of the total number of wage earners and reported products valued at \$3,826,872, or 36.2 per cent of the total value of products for the state. Wisconsin ranked fifth among the states in the production of iron ore.

The industry second in importance was lead and zinc mining in Grant, Iowa, and Lafayette Counties. Twenty-three enterprises in this industry employed 30.4 per cent of the total number of wage earners and reported products valued at \$3,816,911, or 36.1 per cent of the total value of products for the state.

This amount includes receipts for pyrite recovered as a by-product in the treatment of lead and zinc ores and also receipts for custom milling. Wisconsin ranked sixth in value of output from lead and zinc mines.

Granite quarrying was third in importance among the mineral industries in Wisconsin in 1919, and the state ranked fourth in the granite industry. Fourteen granite-quarrying industries employed 21.2 per cent of the total number of wage earners and reported products valued at \$1,484,979, or 14 per cent of the total value of products.

The character of organizations conducting mining enterprises in Wisconsin in 1919 is brought out by Table 3, which shows that corporations operated 66.3 per cent of the total number of enterprises, employed 94.3 per cent of the total number of wage earners, and reported products valued at \$10,082,080, or 95.3 per cent of the total value of products for the state. The table also shows the preponderance of the corporate form of organization in lead and zinc mining and in the limestone and sandstone-quarrying industries. Similar statistics can not be given for the iron-ore mining industry and the granite-quarrying industry without disclosure of one minor operation in each, conducted by an individual. All other operations in these industries were conducted by corporations.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in Wisconsin, 89 per cent had no wage earners or fewer than 101 each and the wage earners employed were only 40.5 per cent of the total number of wage earners. On the other hand, only 10.9 per cent of the total number of enterprises had more than 100 wage earners each and these enterprises employed 59.4 per cent of the total number of wage earners. The larger enterprises were in the iron-ore and lead and zinc-mining and the granite-quarrying industries.

Table 5 shows that in two-thirds of the enterprises employing wage earners and for 54 per cent of the wage earners the hours of labor were 54 to 62 per week. In a third of the enterprises and for 46 per cent of the wage earners the hours were 44 to 53 per week. In the iron-mining industry the 8-hour day and 6-day week prevailed. In the lead and zinc-mining industry the 9-hour day and 6-day week prevailed for most of the wage earners, particularly those employed underground, but enterprises reporting these hours for wage earners employed below ground also reported the 10-hour day and 6-day week for a considerable number

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of the wage earners employed in reduction mills and otherwise above ground. In the quarrying industries the 10-hour day and 6-day week prevailed.

The statistics for wage earners presented in Table 6, showing changes in the number employed month by

month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	92	268	-65.7	Capital.....	\$18,631,034	\$11,660,731	59.8
Number of mines and quarries.....	107	286	-62.6	Principal expenses:			
Persons engaged.....	3,889	5,194	-25.1	Salaries.....	618,115	258,472	139.1
Proprietors and firm members, total....	48	216	-77.8	Wages.....	4,750,235	3,081,359	54.2
Number performing manual labor in or about the mines and quarries.....	19	104	-81.7	Contract work.....	135,293	40,957	230.3
Salaried employees.....	294	268	9.7	Supplies and materials ²	1,969,512	877,925	124.3
Wage earners (average number).....	3,547	4,710	-24.7	Fuel and power.....	857,265	435,993	96.6
Power used (horsepower).....	26,766	24,864	7.6	Royalties and rents.....	535,000	445,148	20.3
				Taxes.....	235,881	62,755	275.9
				Value of products.....	10,580,833	7,459,404	41.8

¹A minus sign (-) denotes decrease.

²Includes cost of ore purchased as material.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	92	3,547	100.0	\$10,580,833	100.0	Granite.....	14	753	21.2	\$1,484,979	14.0
Iron ore.....	6	1,145	32.3	3,826,872	36.2	Limestone.....	33	382	10.8	1,107,790	10.5
Lead and zinc.....	23	1,078	30.4	3,816,911	36.1	Sandstone.....	12	133	3.7	231,078	2.2
						All other industries ¹	4	56	1.6	113,203	1.1

¹Includes enterprises in industries as follows: Barytes, 1; basalt, 2; silica, 1.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	92	3,547	\$10,580,833	\$115,009	100.0	100.0	100.0
Corporation.....	61	3,344	10,082,080	165,280	66.3	94.3	95.3
Individual.....	20	133	276,375	13,819	21.7	3.7	2.6
Firm ¹	11	70	222,378	20,216	12.0	2.0	2.1
LEAD AND ZINC.....	23	1,078	3,816,911	165,953	100.0	100.0	100.0
Corporation.....	19	1,038	3,676,721	193,512	82.6	96.3	96.3
Firm.....	4	40	140,190	35,048	17.4	3.7	3.7
LIMESTONE.....	33	382	1,107,790	33,569	100.0	100.0	100.0
Corporation.....	15	295	912,657	60,844	45.5	77.2	82.4
Individual.....	13	66	137,545	10,580	39.4	17.3	12.4
Firm ¹	5	21	57,588	11,518	15.2	5.5	5.2
SANDSTONE.....	12	133	231,078	19,257	100.0	100.0	100.0
Corporation.....	7	112	197,358	28,194	58.3	84.2	85.4
Individual ²	5	21	33,720	6,744	41.7	15.8	14.6

¹Includes 1 other form of organization.

²Includes 1 firm.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	92	100.0	3,547	100.0	GRANITE.....	14	100.0	753	100.0
No wage earners.....	2	2.2			1 to 5.....	4	28.6	13	1.7
1 to 5.....	27	29.3	61	1.7	6 to 20.....	8	21.4	32	4.2
6 to 20.....	27	29.3	310	8.7	21 to 50.....	1	7.1	22	2.9
21 to 50.....	20	21.7	614	17.3	51 to 100.....	3	21.4	243	32.3
51 to 100.....	6	6.5	454	12.8	101 to 500.....	3	21.4	443	58.8
101 to 500.....	10	10.9	2,108	59.4					
IRON ORE.....	6	100.0	1,145	100.0	LIMESTONE.....	33	100.0	382	100.0
1 to 5.....	1	16.7	40	3.5	1 to 5.....	15	45.5	29	7.6
6 to 20.....	1	16.7	51	4.5	6 to 20.....	11	33.3	120	31.4
21 to 50.....	4	66.7	1,054	92.1	21 to 50.....	6	18.2	168	44.0
					51 to 100.....	1	3.0	65	17.0
LEAD AND ZINC.....	23	100.0	1,078	100.0	SANDSTONE.....	12	100.0	133	100.0
No wage earners.....	2	8.7			1 to 5.....	4	33.3	7	5.3
1 to 5.....	3	13.0	11	1.0	6 to 20.....	7	58.3	91	68.4
6 to 20.....	4	17.4	41	3.8	21 to 50.....	1	8.3	35	26.3
21 to 50.....	10	43.5	320	29.7					
51 to 100.....	1	4.3	95	8.8					
101 to 500.....	3	13.0	611	56.7					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—				INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—			
	Enter-prises.	Wage earners.	44 to 53.		54 to 62.			Enter-prises.	Wage earners.	44 to 53.		54 to 62.	
			Enter-prises.	Wage earners.	Enter-prises.	Wage earners.				Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	190	3,547	30	1,630	60	1,917	Granite.....	14	753	8	317	6	436
Iron ore.....	6	1,145	6	1,145			Limestone.....	33	382	5	40	28	342
Lead and zinc.....	21	1,078	7	86	14	992	Sandstone.....	12	133	2	24	10	109
							All other.....	4	56	2	18	2	38

¹ Exclusive of 2 enterprises employing no wage earners in the lead and zinc industry.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	3,652	3,519	3,426	3,511	3,744	3,857	3,812	3,843	3,844	3,719	3,708	3,593	<i>3,248</i>	84.2
Producing enterprises.....	3,547	3,461	3,308	3,452	3,636	3,720	3,676	3,712	3,717	3,604	3,606	3,479	<i>3,193</i>	84.2
Iron ore.....	1,145	1,206	1,242	1,211	1,179	1,178	1,131	1,115	1,099	<i>1,047</i>	1,108	1,106	1,118	84.3
Lead and zinc.....	1,078	1,413	1,234	1,237	1,118	1,078	986	987	1,040	976	970	980	<i>917</i>	64.9
Granite.....	753	583	608	622	707	778	833	849	821	860	854	809	652	67.8
Limestone.....	382	178	187	232	409	487	509	517	501	477	444	377	266	34.4
Sandstone.....	133	60	72	121	131	144	158	168	181	168	151	131	111	33.1
All other industries.....	56	21	25	29	32	55	59	76	75	76	79	76	69	26.6
Nonproducing enterprises.....	105	<i>68</i>	<i>58</i>	59	108	137	136	131	127	115	102	114	115	42.3

MINES AND QUARRIES—WISCONSIN.

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.							Non-producing enterprises. ³
		Total.	Iron ore.	Lead and zinc. ¹	Granite.	Limestone.	Sandstone.	All other. ²	
Number of enterprises.....	96	92	6	23	14	33	12	4	4
Number of mines and quarries.....	111	107	8	34	16	33	12	4	4
Capital.....	\$19,375,112	\$18,631,034	\$5,903,604	\$7,824,765	\$1,790,740	\$2,260,100	\$341,560	\$450,215	\$744,078
Principal expenses:									
Salaries and wages—									
Officers.....	\$148,631	\$148,351	\$7,640	\$25,266	\$67,427	\$42,375	\$5,643	.....	\$290
Superintendents and managers.....	\$272,847	\$256,247	\$3,512	\$109,061	\$37,493	\$34,339	\$18,072	\$3,800	\$16,000
Technical employees.....	\$59,481	\$57,609	\$21,420	\$34,234	\$1,355	\$600	.....	.....	\$1,872
Clerks, etc.....	\$158,608	\$155,908	\$33,602	\$30,105	\$30,789	\$25,893	\$3,629	\$1,980	\$2,700
Wage earners.....	\$4,892,745	\$4,780,235	\$1,872,621	\$1,330,349	\$759,599	\$533,189	\$133,602	\$60,875	\$142,510
Supplies and materials.....	\$1,914,067	\$1,885,710	\$496,012	\$930,930	\$208,146	\$158,011	\$51,923	\$40,628	\$28,357
Cost of ore purchased as material.....	\$83,802	\$83,802	.....	.....	.....	.....	.....	.....	.....
Fuel.....	\$393,858	\$309,187	\$155,626	\$31,143	\$37,817	\$70,439	\$9,599	\$4,563	\$74,066
Power.....	\$548,078	\$548,078	\$30,158	\$405,839	\$23,748	\$48,920	\$1,010	\$3,403	.....
Royalties and rents.....	\$543,600	\$535,600	\$277,815	\$233,738	\$5,067	\$10,897	\$5,003	\$20	\$8,000
Taxes.....	\$239,005	\$235,881	\$144,568	\$41,776	\$23,101	\$21,094	\$3,775	\$1,567	\$3,124
Contract work.....	\$252,171	\$135,293	\$31,908	\$36,027	.....	\$6,253	\$1,050	.....	\$110,878
Expenditures for development (included in the above items).....	\$1,009,707	\$650,622	\$464,154	\$149,892	\$6,892	\$23,614	\$6,070	.....	\$359,085
Value of products.....	\$10,580,833	\$10,580,833	\$3,826,872	\$3,816,911	\$1,484,979	\$1,107,790	\$231,078	\$113,203	.....
Persons engaged in industry.....	4,008	3,889	1,194	4,214	798	402	164	67	119
Proprietors and firm members (total).....	54	48	1	14	1	23	6	3	6
Number performing manual labor.....	19	19	.....	13	1	5	.....	.....	.....
Salaried officers.....	38	38	1	10	10	15	2	.....	4
Superintendents and managers.....	109	105	11	60	14	18	7	5	.....
Technical employees.....	27	24	9	13	1	1	.....	.....	3
Clerks, etc.....	128	127	27	49	19	23	6	3	1
Wage earners (average number).....	3,652	3,547	1,145	1,078	753	382	133	86	103
Wage earners by occupation (Dec. 15):									
Above ground (total).....	4,293	4,228	258	434	772	477	109	68	65
Below ground (total).....	1,689	1,627	904	603	.....	.....	.....	.....	62
Foremen, shift bosses, etc.—									
Above ground.....	70	70	12	10	21	19	4	4	.....
Below ground.....	70	65	35	30	.....	.....	.....	.....	5
Enginemen, hoistmen, electricians, mechanics, etc.—									
Above ground.....	376	361	88	140	58	42	9	18	15
Below ground.....	84	79	73	6	.....	.....	.....	.....	5
Miners, quarrymen, and drillmen, including their helpers—									
Above ground.....	643	627	20	18	304	174	94	17	10
Below ground.....	834	782	585	197	.....	.....	.....	.....	52
Timberman, trackmen, and men engaged in hauling, tramming, etc.—									
Above ground.....	91	74	20	3	39	12	.....	.....	17
Below ground.....	395	335	172	163	.....	.....	.....	.....	.....
Muckers, loaders, laborers, and others not classified—									
Above ground.....	655	638	110	104	130	219	46	23	17
Below ground.....	366	366	99	267	.....	.....	.....	.....	.....
Wage earners employed in mills and beneficiating plants—									
Above ground.....	458	458	2	203	220	11	16	6	.....
Number of females included in wage earners reported above—									
Above ground.....	10	10	.....	10	.....	.....	.....	.....	.....
Mineral land operated.....acres.	12,869	12,064	2,700	9,291	712	1,348	493	520	805
Land controlled, total.....acres.	19,975	19,050	2,789	12,333	1,260	1,580	508	520	925
Mineral land owned.....	6,978	6,938	1,940	2,331	566	1,322	220	510	40
Mineral land leased.....	5,891	5,126	760	3,910	147	26	273	10	765
Timber and other lands owned and leased.....	7,106	6,986	89	6,042	548	232	75	.....	120
Power used: Aggregate horsepower.....	28,246	26,766	6,732	9,758	2,850	5,772	1,009	645	1,480
Prime movers (horsepower, total).....	9,184	7,704	2,885	88	1,175	2,472	909	175	1,480
Steam engines—									
Number.....	104	97	19	2	26	34	10	6	7
Horsepower.....	8,306	6,971	2,760	30	1,175	2,149	692	165	1,335
Internal-combustion engines—									
Number.....	21	16	.....	3	.....	8	4	1	5
Horsepower.....	603	458	.....	58	.....	173	217	10	145
Water wheels and turbines—									
Number.....	6	6	4	.....	.....	2	.....	.....	.....
Horsepower.....	275	275	125	.....	.....	150	.....	.....	.....
Purchased power (horsepower, total).....	19,062	19,062	3,847	9,670	1,675	3,300	100	470	.....
Electric motors operated by purchased current—									
Number.....	500	500	45	334	33	73	1	14	.....
Horsepower.....	19,062	19,062	3,847	9,670	1,675	3,300	100	470	.....
Electric motors run by current generated by enterprise using:									
Number.....	16	14	6	.....	4	.....	.....	.....	2
Horsepower.....	1,480	1,080	385	.....	560	145	.....	.....	400
Fuel used:									
Coal, anthracite.....tons, 2,240 pounds.....	15	15	.....	.....	15	.....	.....	.....	.....
Coal, bituminous.....tons, 2,000 pounds.....	59,518	59,600	26,154	5,050	5,334	12,066	1,196	800	8,918
Coke.....tons, 2,000 pounds.....	99	99	99	.....	.....	.....	.....	.....	40
Wood.....cords.....	2,128	1,778	.....	42	1,534	202	.....	.....	350
Fuel oils.....barrels.....	1,950	1,950	288	1,402	.....	100	160	.....	.....
Gasoline and other volatile oils.....barrels.....	1,031	929	98	100	1	468	72	100	102

¹ Includes 1 reduction mill operated independently of mines.
² Includes enterprises as follows: Barytes, 1; basalt, 2; silica, 1.

³ Includes enterprises as follows: Iron ore, 2; lead and zinc, 2.
⁴ Includes 1 wage earner under 16 years of age.

WYOMING.

Wyoming, which ranks eighth among the states in size (land area 97,548 square miles) and forty-eighth in population (194,402 in 1920), ranked seventeenth in value of mineral products in 1919. The state ranked twenty-second in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The gross value of mineral products of Wyoming in 1919 was \$41,928,788, which was an increase of 296.6 per cent over the value reported at the census of 1909. This amount includes a duplication of \$74,281, the value of natural gas sold by some producers to others who used it as material or resold it and included it in the products reported by them. The value of products also includes in addition to the value of principal mineral products a small amount received for mineral by-products and for power or miscellaneous services furnished to other enterprises.

The increases in value of products, capital, salaries, wages, cost of supplies and materials and fuel and power, shown in Table 1, are not wholly a measure of growth of mining in Wyoming as they were augmented in large part by general price increases during the census interval. The increases in number of enterprises, number of wells operated, and average number of wage earners employed are a better measure of the progress of the mining industries.

The mining industries reported in Wyoming for 1919, classified according to principal products and listed in order of value of products, were petroleum and natural gas, coal, iron ore, gypsum, limestone, ores of rare metals (uranium), chromite, sandstone, asbestos, and clay. The mineral industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading industry in Wyoming was the production of petroleum and natural gas in which 39 out of a total of 106 enterprises in the state were engaged. The industry employed 22.3 per cent of the total number of wage earners and reported products valued at \$21,959,937, which was 52.4 per cent of the total value of products of the state. In this industry Wyoming ranked eleventh in the United States. Productive operations were distributed over the state in 13 counties, but the most important were in Salt Creek Field in Natrona County, Big Muddy Field in

Converse County, Grass Creek Field in Hot Springs County, and Elk Basin Field in Park County.

The industry second in importance in Wyoming in 1919 was the mining of bituminous coal, in which 46 enterprises were engaged. They employed 73.1 per cent of the total number of wage earners and reported products valued at \$18,723,451, which was 44.7 per cent of the total value of products of the state. In this industry Wyoming ranked tenth in the United States. The producing mines were in 12 counties, of which Sweetwater, Sheridan, and Lincoln were most productive.

The form of organizations conducting mining enterprises in the state of Wyoming in 1919 is shown in Table 3, which brings out the preponderance of corporations over other forms of organization. Corporations conducted 86.8 per cent of the total number of enterprises, employed 99.3 per cent of the total number of wage earners, and reported 99.6 per cent of the total value of products.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in Wyoming, 4 employed no wage earners and 74, or 69.8 per cent, had fewer than 101 wage earners each and employed only 14.8 per cent of the total number of wage earners. On the other hand, 26.4 per cent of the total number of enterprises had more than 100 wage earners each, and these enterprises employed 85.2 per cent of the total number of wage earners. The larger enterprises were in the coal-mining, petroleum and natural-gas, and iron-ore-mining industries.

Table 5 shows that in a majority of the enterprises and for 77.1 per cent of the total number of wage earners the hours of labor were 44 to 53 per week. A considerable number of other enterprises reported 54 to 62 hours per week. In the coal-mining industry the 8-hour day and 6-day week prevailed, while in the petroleum and natural-gas industry longer hours were the rule.

The statistics for wage earners presented in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

MINES AND QUARRIES—WYOMING.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	106	66		Capital.....	\$101,774,873	\$9,505,365	970.7
Number of mines and quarries.....	87	95		Principal expenses:			
Number of petroleum and natural-gas wells.....	1,084	21		Salaries.....	1,386,929	447,407	210.0
Number of natural-gas gasoline plants.....	5			Wages.....	14,576,415	6,266,787	132.6
Persons engaged.....	10,273	8,228	24.9	Contract work.....	715,960	61,542	1,063.4
Proprietors and firm members, total.....	19	202	-90.6	Supplies and materials.....	² 6,422,769	1,385,594	363.5
Number performing manual labor in or about the mines, quarries, and wells.....	7	13		Fuel and power.....	1,072,787	376,187	185.2
Salaried employees.....	555	282	99.8	Royalties and rents.....	1,765,597	107,834	1,537.3
Wage earners (average number).....	9,699	7,742	25.3	Taxes.....	1,996,372	61,409	3,150.9
Power used (horsepower).....	62,757	30,338	106.9	Value of products.....	41,928,788	10,572,188	296.6

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.
² Includes cost of natural gas purchased for use as material.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	106	9,699	100.0	\$41,928,788	100.0	Coal, bituminous.....	46	7,091	73.1	\$18,723,451	44.7
Petroleum and natural gas.....	39	2,167	22.3	21,959,937	52.4	All other industries ¹	21	441	4.5	1,245,400	3.0

¹ Includes enterprises in industries as follows: Asbestos, 2; chromite, 1; clay, 1; gypsum, 4; iron ore, 1; limestone, 3; sandstone, 3; rare metals (uranium), 1.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	106	9,699	\$41,928,788	\$395,555	100.0	100.0	100.0
Corporation.....	92	9,633	41,753,351	453,841	86.8	99.3	99.6
Individual.....	10	37	123,648	12,365	9.4	0.4	0.3
Firm.....	4	29	51,789	12,947	3.8	0.3	0.1
PETROLEUM AND NATURAL GAS.....	39	2,167	21,959,937	563,075	100.0	100.0	100.0
Corporation.....	39	2,167	21,959,937	563,075	100.0	100.0	100.0
COAL, BITUMINOUS.....	46	7,091	18,723,451	407,032	100.0	100.0	100.0
Corporation.....	37	7,052	18,041,184	503,816	80.4	99.4	99.6
Individual.....	5	10	30,473	6,096	10.9	0.1	0.2
Firm.....	4	29	51,789	12,947	8.7	0.4	0.3

MINES AND QUARRIES—WYOMING.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	106	100.0	9,699	100.0	PETROLEUM AND NATURAL GAS...	39	100.0	2,167	100.0
No wage earners.....	4	3.8			No wage earners.....	2	5.1		
1 to 5.....	28	26.4	63	0.6	1 to 5.....	18	33.3	32	1.5
6 to 20.....	25	23.6	256	2.6	6 to 20.....	11	28.2	92	4.2
21 to 50.....	10	9.4	348	3.6	21 to 50.....	4	10.3	145	6.7
51 to 100.....	11	10.4	774	8.0	51 to 100.....	5	12.8	350	16.2
101 to 500.....	25	23.6	6,184	63.8	101 to 500.....	3	7.7	760	35.1
501 to 1,000.....	3	2.8	2,074	21.4	501 to 1,000.....	1	2.6	787	36.3
COAL, BITUMINOUS.....	46	100.0	7,091	100.0					
1 to 5.....	9	19.6	22	0.3					
6 to 20.....	6	13.0	72	1.0					
21 to 50.....	3	6.5	111	1.6					
51 to 100.....	5	10.9	372	5.2					
101 to 500.....	21	45.7	5,227	73.7					
501 to 1,000.....	2	4.3	1,287	18.1					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
	Enterprises.	Wage earners.	36 to 43.		44 to 53.		54 to 62.		63 to 71.		72 to 84.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	102	9,699	3	19	56	7,481	23	1,892	10	239	10	68
Coal, bituminous.....	46	7,091	1	16	44	7,033	1	42				
Petroleum and natural gas.....	37	2,167			7	221	14	1,683	7	204	9	59
All other industries.....	19	441	2	3	5	227	8	167	3	35	1	9

¹ Exclusive of 4 enterprises employing no wage earners in industries as follows: Petroleum and natural gas, 2; limestone, 2.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.											Per cent minimum is of maximum.	
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.		December.
All industries.....	9,781	10,978	10,448	10,245	9,629	9,234	9,080	<i>9,061</i>	9,594	9,810	9,872	9,101	10,350	82.4
Producing enterprises.....	9,699	10,939	10,407	10,188	9,565	9,123	8,949	<i>8,942</i>	9,476	9,723	9,788	9,016	10,272	81.7
Coal, bituminous.....	7,091	8,445	7,988	7,621	6,972	6,353	<i>6,117</i>	6,186	6,688	6,989	7,339	6,570	7,819	72.4
Petroleum and natural gas.....	2,167	2,062	<i>1,969</i>	2,087	2,048	2,201	2,306	2,195	2,248	2,233	2,210	2,212	2,243	85.0
All other industries.....	441	432	460	480	545	564	526	561	540	501	239	234	210	37.2
Nonproducing enterprises.....	82	39	41	57	64	111	111	109	118	87	84	85	78	33.1
Petroleum and natural gas.....	67	25	28	41	49	95	95	93	104	75	69	68	62	24.0
All other industries.....	15	14	13	16	15	16	16	14	14	12	15	17	16	70.6

MINES AND QUARRIES—WYOMING.

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	Aggregate.	PRODUCING ENTERPRISES.			NONPRODUCING ENTERPRISES.		
		Total.	Petroleum and natural gas.	Coal, bituminous.	All other. ¹	Total.	Petroleum and natural gas.	All other.^{2}
Number of enterprises.....	121	106	39	46	21	15	4
Number of mines and quarries.....	91	87		65	22	4	4
Number of petroleum and natural-gas wells.....	1,084	1,084	1,084				
Number of natural-gas gasoline plants.....	5	5	5				
Capital.....	\$104,429,923	\$101,774,873	\$65,620,743	\$33,876,607	\$2,277,623	\$2,656,050	\$2,427,130
Principal expenses:							
Salaries and wages—							
Officers.....	\$446,223	\$435,119	\$131,079	\$287,459	\$15,081	\$11,104	\$9,304
Superintendents and managers.....	\$424,849	\$402,032	\$145,805	\$226,776	\$29,451	\$22,817	\$13,661
Technical employees.....	\$143,006	\$110,013	\$25,842	\$77,316	\$6,855	\$32,993	\$25,873
Clerks, etc.....	\$447,257	\$439,766	\$127,071	\$288,487	\$24,207	\$7,492	\$7,492
Wage earners.....	\$14,710,299	\$14,576,415	\$3,486,735	\$10,545,034	\$544,646	\$193,854	\$114,513
Supplies and materials.....	\$9,789,622	\$9,348,488	\$3,757,754	\$2,287,971	\$302,763	\$441,134	\$434,058
Cost of natural gas purchased for use as material or for resale.....	\$74,281	\$74,281	\$74,281				
Fuel.....	\$805,132	\$762,272	\$278,094	\$393,788	\$95,390	\$42,860	\$40,009
Power.....	\$310,515	\$310,515		\$310,515			
Royalties and rents.....	\$1,783,796	\$1,765,597	\$1,497,106	\$239,261	\$29,230	\$18,199	\$15,689
Taxes.....	\$1,999,502	\$1,996,372	\$1,158,221	\$806,211	\$31,940	\$3,130	\$2,849
Contract work.....	\$820,603	\$715,960	\$676,625	\$1,232	\$38,103	\$104,643	\$93,643
Expenditures for development (included in the above items).....	\$6,843,057	\$6,060,835	\$5,722,038	\$318,297	\$20,500	\$782,222	\$724,203
Value of products.....	\$41,928,788	\$41,928,788	\$21,959,937	\$18,723,451	\$1,245,400		
Persons engaged in industry.....	10,399	10,273	2,368	7,427	488	126	103
Proprietors and firm members (total).....	19	19		14	5		
Number performing manual labor.....	7	7		6	1		
Salaried officers.....	94	87	32	50	5		6
Superintendents and managers.....	156	145	53	77	15	11	7
Technical employees.....	58	39	7	23	4	19	16
Clerks, etc.....	201	284	99	167	18	7	7
Wage earners (average number).....	9,781	9,699	2,167	7,091	441	82	87
Wage earners by occupation (Dec. 15):							
Above ground (total).....	4,060	3,948	2,262	1,307	379	112	106
Below ground (total).....	6,618	6,608		6,488	120	10	10
Foremen, shift bosses, etc.—							
Above ground.....	72	71		52	19	1	1
Below ground.....	101	101		91	10		
Engineers, hoistmen, electricians, mechanics, etc.—							
Above ground.....	2,439	2,375	1,949	372	54	64	62
Below ground.....	207	207		286	11		
Miners, quarrymen, and drillmen, including their helpers—							
Above ground.....	160	159		89	70	1	1
Below ground.....	3,277	3,269		3,253	16	8	8
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—							
Above ground.....	212	212		182	30		
Below ground.....	1,066	1,065		1,035	30	1	1
Muckers, loaders, laborers, and others not classified—							
Above ground.....	1,123	1,077	313	612	152	46	44
Below ground.....	1,877	1,876		1,823	53	1	1
Wage earners employed in mills and beneficiating plants—							
Above ground.....	54	54			54		
Number of females included in wage earners reported above—							
Above ground.....	65	62	62			3	3
Number of wage earners under 16 years of age included in those reported above—							
Above ground.....	2	2		2			
Mineral and oil land operated..... acres	272,101	264,095	199,542	57,502	7,591	7,406	6,076
Land controlled, total..... acres	275,383	267,977	199,542	60,842	7,593	7,406	6,076
Mineral and oil land owned.....	59,184	58,584	8,210	44,526	5,848	600	600
Mineral and oil land leased.....	212,919	206,113	191,332	13,036	1,745	6,806	6,076
Timber and other land owned and leased.....	3,280	3,280		3,280			
Power used: Aggregate horsepower.....	63,478	62,757	12,893	47,075	2,789	721	629
Prime movers (horsepower, total).....	49,538	48,817	12,893	33,135	2,789	721	629
Steam engines—							
Number.....	335	317	212	88	17	18	16
Horsepower.....	23,537	22,916	5,531	14,850	2,535	621	561
Steam turbines—							
Number.....	16	16		16			
Horsepower.....	18,240	18,240		18,240			
Internal-combustion engines—							
Number.....	244	228	228	2	8	6	5
Horsepower.....	7,761	7,661	7,362	45	254	100	68
Purchased power (horsepower, total).....	13,940	13,940		13,940			
Electric motors operated by purchased current—							
Number.....	355	355		355			
Horsepower.....	13,940	13,940		13,940			
Electric motors run by current generated by enterprise using:							
Number.....	108	108	1	92	15		
Horsepower.....	4,474	4,474	75	3,966	433		
Fuel used:							
Coal, bituminous..... tons, 2,000 pounds.....	242,605	241,089	1,802	223,042	16,155	1,516	1,326
Coke..... tons, 2,000 pounds.....	14	14			14		
Wood..... cords.....	360	6			6	354	354
Fuel oils..... barrels.....	131,738	119,210	119,210			12,526	12,526
Gasoline and other volatile oils..... barrels.....	926	802	151	91	550	124	124
Natural gas..... 1,000 cubic feet.....	1,824,124	1,743,724	1,743,724			80,400	80,400

¹ Includes enterprises as follows: Asbestos, 2; chromite, 1; clay, 1; gypsum, 4; iron ore, 1; limestone, 8; sandstone, 3; rare metals (uranium), 1.

² Includes enterprises as follows: Gold, silver, or copper, lode mines, 3; sulphur, 1.